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## A STUDY OF INFANT AND MATERNAL DEATH RATES IN A WESTERN STATE.

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### GEOGRAPHY.

Montana lies between the 45th and the 49th (the Canadian border) parallels of latitude and the 104th and 116th meridians of longitude; it averages 275 miles in width from north to south and 535 miles in length from east to west; and it is the third largest State in the Union, containing 146,997 square miles.

At the time of the 1920 census it had 51 counties. The areas of these in square miles varied as follows: One was 7,146 square miles, one 6,446, five between 5,000 and 6,000, four between 4,000 and 5,000, seven between 3,000 and 4,000, fifteen between 2,000 and 3,000, fourteen between 1,000 and 2,000, and four between 500 and 1,000.

By way of comparison, the area of New Jersey is 8,224 square miles, that of Connecticut 4,965, of Delaware 2,370, and of Rhode Island 1,248.

The State is traversed from east to west by three transcontinental lines, with connections and branches which supply remarkably adequate railway communication between all the larger towns and cities and most of the villages. However, four counties in the eastern part of the State, varying in area from 3,350 to 5,350 square miles, are without any railway facilities. Lack of railway facilities in the greater portion of the State is compensated for by good highways, which afford automobile transportation throughout the entire year, with the exception of a few weeks. But the impassibility of the roads during these few weeks of winter often constitutes a serious difficulty in providing adequate and immediate medical or nursing care to remote settlements often 50 to 100 miles from urban centers.

### TOPOGRAPHY.

The name "Montana," meaning mountainous, is descriptive of the topography of a large part of the State. The western third consists of the main range of the Rocky Mountains, forming the continental

divide, which cross somewhat diagonally, from west of north to east of south. The eastern two-thirds of the State is made up of plains and plateaus, broken by many buttes, and occasional small mountain ranges. These latter frequently interfere with direct communication between points and necessitate long detours in travel.

One-fourth of the State lies at an altitude of less than 2,000 feet, one-half is less than 3,000 feet in altitude, and three-fourths less than 4,000 feet. The highest altitude is 12,000 feet, and the average 3,400 feet.<sup>1</sup>

### CLIMATE.<sup>2</sup>

Temperature and rainfall of different parts of the State are materially affected by the main-divide of the Rocky Mountains. On the western slope the precipitation is heavier and the extremes of temperature are less marked. The effect of coast currents extends over the divide for some distance, the "chinooks," or warm winds, being felt as far as 300 miles east of the crest of the mountains. In the western valleys minimum temperatures of  $-20^{\circ}$  to  $-25^{\circ}$  are comparatively rare, whereas on the plains it is not unusual to experience extremes of  $-40^{\circ}$  to  $-45^{\circ}$ . But low winter temperatures, as a rule, do not continue for long periods, and are accompanied by dry and a comparatively calm atmosphere, which renders them more endurable to animal life than much higher temperatures with these conditions absent. Outdoor occupations can be carried on with little interruption or discomfort during winter and spring months.

Summer temperatures, on the other hand, are never oppressive. Although there are a few days in one or more of the summer months when a maximum temperature of  $90^{\circ}$  or above is recorded in the mountain sections, and of  $100^{\circ}$  or above on the plains, the temperature cools rapidly in the evening by radiation, and there are, therefore, no hot nights.

The mean annual temperature is  $42.4^{\circ}$  F.

The greatest precipitation occurs during the summer months. The precipitation in the months of May to August, inclusive, nearly equals that for the remaining eight months. About one-half the State receives from 10 to 15 inches annually and the remainder from 15 to 25 inches. Amounts of 20 inches or more fall over limited areas at lower altitudes, principally in the northwestern portion of the State. The greatest annual precipitation for the State as a whole was in 1908, viz, 61.81 inches; the least was in 1919, viz, 4.54 inches.

### INDUSTRIES.

Probably no State has a wider variation of natural resources. They consist of metal mines of copper, gold, silver, lead, and zinc,

<sup>1</sup> Thirteenth Annual Report, U. S. Geol. Survey, Part II.

<sup>2</sup> Bulletin Q, U. S. Weather Bureau.

with their attendant refining or smelting processes, bituminous coal mines, oil-producing districts, stock raising, agriculture in irrigated and nonirrigated areas; horticulture, lumbering, and water-power developments. Each of these industries has had a distinct influence on immigration and population characteristics, and these influences must be determined by acquaintance with the history of development of each industry.

Although, in common with all portions of the United States, all of these industries suffered from the economic reaction following wartime prosperity, the depression was more marked in agricultural and stock-raising centers. A series of short crops for several preceding years culminated in a severe drought in 1919, resulting in almost complete financial failure of several thousands of homesteaders and stockmen in nonirrigated areas. There occurred a large emigration from these districts, especially of those who, inexperienced in agricultural pursuits, were unwilling or unable to face the hardships incident to pioneering. Among those who elected to remain, there arose great need for financial and social relief; and State and local agencies, both governmental and extragovernmental, were strained to meet the emergency.

#### POPULATION.<sup>3</sup>

According to the census, the population of Montana, as of January 1, 1920, was 548,889, which represented an increase of 172,836, or 46 per cent, since 1910. The greatest part of this increase occurred in that part (approximately three-fifths) of the State lying east of the main range which in the past decade has witnessed an influx of homesteaders.

The density of population varied from one inhabitant per square mile in Powder River County, a ranching and stock-raising district, to 86.4 inhabitants per square mile in Silver Bow County, a mining community. The average number of persons to the square mile for the State was 3.8. Including both urban and rural populations, 18 counties averaged less than 2 persons to each square mile, 32 counties from 2 to 6 persons, 5 counties from 6 to 18 persons, 1 county from 18 to 45 persons, and 1 from 45 to 90 persons. Omitting urban population, rural inhabitants for each square mile averaged less than 2 in 18 counties, 2 to 6 in 32 counties, and from 18 to 45 in 1 county.

The urban population was grouped in 12 cities of over 5,000 population and 5 other cities of over 2,500 population, and comprised 31.3 per cent of the total.

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<sup>3</sup> Fourteenth Census of the United States: 1920. Bulletin: Montana. Bureau of the Census.

## Racial composition of the total population was—

	Number.	Per cent.
White.....	531,200	97.3
Negro.....	1,458	.3
Indian.....	10,955	2.0
Chinese.....	872	.2
Japanese.....	1,074	.2
All other.....	69	( <sup>1</sup> )
Native white.....	440,640	80.3
Foreign-born white.....	93,620	17.1

<sup>1</sup> Less than one-tenth of 1 per cent.

Males outnumbered females by 50,993, the ratio for the total population having been 120.5 males for 100 females. In the native white population the ratio was 112.6 males for each 100 females, and in the foreign-born whites 164.5 males for each 100 females.

By race the ratios of males to 100 females were as follows: White, 120.2; Negro, 138.2; Indian, 107.6; Chinese, 1,201.5 (805 males to 67 females); Japanese, 362.9.

These ratios should be considered in a study of birth rates.

The total number of women of child-bearing age (15 to 44 years) was 121,589.

## BIRTH RATES.

Since infant and maternal death rates are the ratios between infant and maternal deaths and the total number of living births, their accuracy depends upon the completeness with which births are reported. The adequacy of birth registration must first be established.

The Montana vital statistics law was enacted in 1907 and became operative that same year. The State was admitted to the United States death registration area in 1910 (to the birth registration area in January, 1922).

The number of living births registered in 1919 was 12,017; in 1920, 11,862.

On the estimated increase of population based on the 1910 census the birth rate for 1919 was 24.1 per 1,000 population. Since the same estimate of increase was used as a basis of population calculation for other States in the birth registration area, for comparative purposes it must be used. On this premise Montana would have ranked sixth among these States. However, on the actual increase of population, as revealed by the 1920 census, the rate was somewhat lower, being 22.3, or equivalent to that of the United States registration area, and would have given the State a ranking of twelfth among the States of that area.

*Birth rates per 1,000 population, 1919.*

## United States Birth Registration Area, 22.3.

Utah.....	29.3	Minnesota.....	21.9
North Carolina.....	29.1	New York.....	21.9
South Carolina.....	26.6	Wisconsin.....	20.9
Virginia.....	26.5	Kansas.....	20.6
Connecticut.....	24.8	Indiana.....	20.3
Montana <sup>4</sup> .....	24.1	Maine.....	20.2
Kentucky.....	24	Vermont.....	19.9
Pennsylvania.....	24	New Hampshire.....	19.8
Maryland.....	23.6	Ohio.....	19.8
Michigan.....	23.2	Washington.....	18.7
Massachusetts.....	22.9	Oregon.....	17.4
Montana <sup>5</sup> .....	22.3	California.....	16.8

The rate for 1920 was somewhat lower, being only 21.3 as against the United States birth registration area rate of 23.7, and would have given the State a ranking of nineteenth among the States of the area. Decline of the 1920 rate was to a considerable extent influenced by emigration of many homesteaders with families, following temporary agricultural depression brought about by the reduced rainfall in 1919.

*Birth rates per 1,000 population, 1920.*

## United States Birth Registration Area, 23.7.

North Carolina.....	31.6	New York.....	22.5
Utah.....	31.1	Maine.....	22.5
Virginia.....	28.3	New Hampshire.....	22.4
South Carolina.....	28.2	Kansas.....	22.3
Kentucky.....	26	Wisconsin.....	22.2
Pennsylvania.....	25.1	Indiana.....	22
Michigan.....	25	Montana.....	21.3
Maryland.....	24.8	Ohio.....	21.3
Connecticut.....	24.5	Vermont.....	21
Nebraska <sup>6</sup> .....	23.7	Washington.....	19.8
Massachusetts.....	23.6	California.....	19.3
Minnesota.....	23.3	Oregon.....	18.9

In view of the excess of males over females, and compared with registration States west of the Mississippi River, and more especially with immediate neighbors subject to similar factors of population movements, it would seem that rates for both years can be regarded as satisfactory indication of fairly complete registration.

While there is a partial failure to secure complete registration in remote rural areas, the actual percentage unreported is small. For the most part, the showings of reduced rates occur in those counties in which distance from medical service and inadequate transportation facilities encourage mothers to seek hospital centers. Counties with hospital facilities show corresponding increases of rates. This factor

<sup>4</sup> Rate based on estimated increase of population from 1910 census.

<sup>5</sup> Rate based on actual increase of population as shown by 1920 census.

<sup>6</sup> Admitted to birth registration area, 1920.

is emphasized by the marked difference in urban and rural rates, as follows:

1919—Urban rate.....	28.8	1920—Urban rate.....	29.1
Rural rate.....	18.7	Rural rate.....	18.2

The standard form of birth certificate was not adopted until July 1, 1919, and since the post card previously in use omitted several items of information contained on the standard form, it is impossible to present as full tabulation for 1919 as for 1920.

The following table of 1920 data is of interest:

*Births per 1,000 enumerated female population.*

Race.	Regis- tration area, 1920.	Montana.	
		1919	1920
White.....	48.2	48.1	47.2
Native white.....	42.8		41.8
Foreign born white.....			62.3
Indian.....	48.3	48.3	63.8
Negro.....	52.8	34.5	14.4
Yellow (Chinese and Japanese).....		153.8	204.0
Total.....	48.6	48.2	47.6

#### INFANT DEATHS.

The number of deaths of children under 1 year of age during 1919 was 955, and in 1920, 842. These figures constitute infant mortality rates (per 1,000 living births) of 79.4 in 1919, as compared with a rate of 87 for the United States Registration Area, and 70.9 in 1920, as compared with 86 for the registration area.

Of the 22 registration States in 1919, one State (Indiana) recorded the same rate, six States (Utah, California, Kansas, Minnesota, Oregon, and Washington) had lower rates, while 15 States exceeded the rate. Of 27 registration States in 1920, 1 State (Utah) recorded the same rate, 4 States (Minnesota, Washington, Nebraska, and Oregon) had lower rates, while 18 exceeded it.

*Infant death rates per 1,000 living births, 1919.*

United States birth registration area, 87.

South Carolina.....	113	New York.....	84
Maryland.....	105	Kentucky.....	82
Pennsylvania.....	100	Wisconsin.....	80
New Hampshire.....	93	Indiana.....	79
Maine.....	91	Montana.....	79
Virginia.....	91	Utah.....	71
Michigan.....	90	California.....	70
Ohio.....	90	Kansas.....	70
Massachusetts.....	88	Minnesota.....	67
Connecticut.....	86	Oregon.....	63
Vermont.....	85	Washington.....	63
North Carolina.....	84		

The rate per 1,000 women of child bearing age (15-44) in Montana in 1919 was 98.6, and in 1920, 97.5.

*Infant death rates per 1,000 living births, 1920.*

United States birth registration area, 86.

South Carolina.....	116	Ohio.....	83
Maryland.....	104	Indiana.....	82
Maine.....	102	Wisconsin.....	77
Pennsylvania.....	97	California.....	74
Vermont.....	96	Kansas.....	73
Connecticut.....	92	Kentucky.....	73
Michigan.....	92	Montana.....	71
Massachusetts.....	91	Utah.....	71
New Hampshire.....	88	Minnesota.....	66
New York.....	86	Washington.....	66
North Carolina.....	85	Nebraska <sup>7</sup> .....	64
Virginia.....	84	Oregon.....	62

Variations between urban and rural infant mortality rates in Montana are not marked:

	1919	1920
Urban rate.....	79.8	71.7
Rural rate.....	79.2	70.4

A slight advantage would seem to accrue to rural districts. This may be due to slight extent to failure to secure complete records of some neonatal deaths in remote regions, where necessity for careful recording has not been fully appreciated; but the tendency of many rural mothers to seek hospitals in urban centers during confinement and for brief postnatal care is probably the greatest factor leading to the higher urban rate. If these latter could have been segregated it is probable that the ratios would have been about equal or slightly the reverse.

Death rates among male infants exceed those in females:

	1919	1920
Male.....	91.3	73.6
Female.....	67.1	68.1

No explanation is offered for the greater discrepancy in 1919.

Grouping by race, nativity of parents, age group, and calendar months, has not been done.

Causative factors and comparisons with those of the United States registration area for 1919 are shown in the following table:

Cause of death.	United States registration area, 1919.	Montana.	
		1919	1920
Natal and prenatal causes.....	<i>Per cent.</i> 42.7	<i>Per cent.</i> 51.2	<i>Per cent.</i> 52.9
Gastrointestinal diseases.....	20.5	11.5	14.1
Respiratory diseases.....	14.6	16.3	14.7
Epidemic diseases.....	9.7	12.4	11.5
All other diseases.....	12.5	8.6	6.8

<sup>7</sup> Admitted to birth registration area, 1920.

Climatic conditions for the most part are most favorable for infant hygiene. While a somewhat prolonged winter season, with its tendencies to closed windows and restricted ventilation, might be thought to be productive of decreased resistance to respiratory infection, such is not actually shown. In fact, the proportion of these infections in both years is actually higher than normal, owing to annual recrudescences of influenza. Summer temperatures are most conducive to low rates of gastrointestinal disorders and heat exhaustions.

The two factors in which the proportions annually and strikingly exceed those of the United States registration area are those most subject to control and which distinctly call for the greatest exercise of preventive measures, viz, epidemic diseases and natal and prenatal causes. They call for energetic educational campaigns.

#### STILLBIRTHS.

The term "stillbirths" is admittedly unsatisfactory, including as it does "*premature* stillbirths" and "*mature* stillbirths." Under Montana regulations certificates are required for all stillborn children that have passed the fourth month (or sixteenth week) of gestation, a variation from the standard of the seventh month (or twenty-eighth week) in effect in many States. Many physicians are frank in stating that they classify stillbirths under the seventh month as "miscarriages" or "abortions" and do not regard them as reportable. It is accepted that the great majority of stillbirths in the two years exceeded the seventh month. In considering "stillbirth rates," these qualifications must be kept in mind.

In the table following two ratios are given: (1) The ratio of stillbirths to 1,000 living births, and (2) the ratio of stillbirths to 1,000 known pregnancies, i. e., living and stillbirths both included.

	1919			1920		
	Total number of stillbirths.	Stillbirths per 1,000 pregnancies.	Stillbirths per 1,000 living births.	Total number of stillbirths.	Stillbirths per 1,000 pregnancies.	Stillbirths per 1,000 living births.
Urban.....	172	33.8	34.9	206	39.6	41.1
Rural.....	187	25.7	26.4	170	24.2	24.8
Total.....	360	29.1	29.9	376	30.7	31.7

In 1919 stillbirths occurred in 2.9 per cent of known pregnancies, and in 1920 in 3.1 per cent of known pregnancies.

Hospital experience is not fairly comparable to general practice, but the following permits of some comparison:

Sloane Hospital, New York,<sup>8</sup> reports 4.29 per cent of stillbirths in a series of 10,000 confinements. In the same article reference is

<sup>8</sup> Holt and Babbitt, Journal A. M. A., Jan. 23, 1915.



made to a stillbirth rate of 5.22 per cent experienced by Kerness, of Munich.

The New York Infirmary for Women and Children<sup>9</sup> reports a stillbirth rate of 3.6 per cent in 3,416 confinements.

H. Schwarz, New York,<sup>10</sup> in a series of 27,711 pregnancies in 6,968 families, found a stillbirth rate of 1.49 per cent, but makes additional segregation of 8.8 per cent of miscarriages.

The New York Milk Commission reports 3.65 per cent of stillbirths in 3,145 confinements in the Borough of Manhattan, 1912 to 1916, all mothers having been given special prenatal instruction.

Chambrelent, of Bordeaux, refers to a prevailing rate in France of 4.7 per cent of stillbirths during 1910.

Omitting the rate given by Schwarz, which seemingly refers to "mature stillbirths," the average rate of this group is 4.2 per cent; and inasmuch as the rate in general practice may be expected to exceed that of hospitals, no less than 4.5 per cent may be accepted as an average rate. A survey for 1919 conducted by the Metropolitan Life Insurance Co.<sup>11</sup> in States and cities with acceptedly good birth registration confirms this estimate. On this basis an average of two-thirds of stillbirths in the State are annually reported.

The greater urban rate may be partially but not entirely accounted for by better reporting and by the tendency of cases of expected dystocia to seek hospital attention.

No study has been made of causative factors; but since these are so generally established, and since the application of preventive measures is more or less standardized, it seems unnecessary to extend such study to this small group.

#### MATERNAL DEATHS.

Deaths from the puerperal state in 1919 numbered 142, and in 1920, 118. In apparent ratio to population, deaths from these causes have been consistently high, although due allowance must be made for the influenza and pneumonia waves extending from 1917 to 1919, with slight recurrence in the spring of 1920.

Maternal deaths.		Maternal deaths.	
1910.....	63	1916.....	108
1911.....	78	1917.....	143
1912.....	75	1918.....	184
1913.....	80	1919.....	142
1914.....	100	1920.....	118
1915.....	91		

<sup>9</sup> Mary Lee Edward, *Journal A. M. A.*, Oct. 16, 1915.

<sup>10</sup> *American Journal Diseases of Children*, April, 1920.

<sup>11</sup> *Statistical Bulletin*, Metropolitan Life Insurance Co., March, 1920.

This is equivalent to a rate of 26.3 per 100,000 population in 1919, and of 21.1 in 1920. The highest average rate recorded among 16 civilized nations for the period 1900-1910 was 19.6 in Spain, the lowest, 6, in Sweden; and for the United States registration area during the same period it was 14.9.<sup>11</sup>

The rate per 100,000 females of child-bearing age (15-44 years) in 1919 was 116.6, and in 1920, 98. Among 11 European countries, during the prewar period (i. e., 1910 to 1913), the highest rates recorded were those of Belgium, 63.79 in 1912, and of Scotland, 62.24 in 1913, and the lowest, that of Sweden, 29.3 in 1910, and of Norway, 31.96 in 1910. Among the death registration States for the period 1910 to 1915, inclusive, the Montana rate was conspicuously in excess of all others with the exception of only one year, that of 1910, when the Colorado rate, 80.5, exceeded Montana's rate of 78.9.<sup>12</sup>

The rate per 1,000 living births in 1919 was 11.8, and in 1920, 9.9. The highest rate recorded among 15 foreign countries in 1910 (a prewar period) was that of Scotland, 5.7, the lowest that of Italy, 2.4.<sup>12</sup> The rate for the United States birth registration area for 1919 was 7.4. The highest rate, 11.2, was recorded in South Carolina, and the lowest, 4.8, in Wisconsin. Comparisons for 1920 are not available at the time of this writing.

*Maternal death rates per 1,000 living births, 1919.*

United States Birth Registration Area, 7.4.

Montana <sup>13</sup> .....	11.8	New Hampshire.....	8.0
South Carolina.....	11.2	Vermont.....	8.0
Oregon.....	10.1	Michigan.....	7.7
North Carolina.....	9.3	Ohio.....	7.4
Maine.....	8.6	Massachusetts.....	7.1
Washington.....	8.6	Pennsylvania.....	6.8
Indiana.....	8.4	Minnesota.....	6.7
Maryland.....	8.4	Kentucky.....	6.3
Utah.....	8.4	Connecticut.....	6.2
Kansas.....	8.2	New York.....	6.2
Virginia.....	8.2	Wisconsin.....	4.8
California.....	8.0		

Although birth reporting in Montana for the period 1910 to 1920 has not been complete, it has been sufficient to confirm the opinion that the maternal death rates for 1919 and 1920 have been fairly constant during the decade:

<sup>11</sup> Appendix A, Rural Child Welfare Series No. 3, Pub. No. 34, Children's Bureau, U. S. Department of Labor.

<sup>12</sup> Montana (1920), 9.9.

	Maternal death rate per 1,000 live births.		Maternal death rate per 1,000 live births.
1910.....	10.3	1916.....	(14)
1911.....	10.3	1917.....	10.9
1912.....	9.2	1918.....	12.8
1913.....	9.2	1919.....	11.8
1914.....	10.0	1920.....	9.9
1915.....	8.1		

It can be accepted, therefore, that Montana has an unenviable maternal death rate. Analysis of maternal deaths for the two years discloses some interesting facts. The ratios given are per 1,000 living births.

The urban rate for 1919 was 12.7, the rural, 11.1. Excluding 19 rural cases imported into urban centers for hospital care and including them as rural, the urban rate is reduced to 8.9, and the rural increased to 13.8.

The urban rate for 1920 was 9.98, the rural, 9.92. Excluding 17 rural cases imported to urban hospitals, the urban rate is reduced to 6.6 and the rural increased to 12.4.

In the absence of the standard birth certificate during 1919, nativities can not be given for that year; but for 1920 the rate among native-born women was 10.7, among the foreign-born, 6.8.

For 1919 the rate among white women was 11.7, among Indians 19.6. For 1920 the rate for whites was 10.1, among Indians 5.96. The small numbers of Indian births and deaths accounts for the wide fluctuation. No maternal deaths were recorded among Negroes, Chinese, or Japanese. These, too, constitute a small portion of the female population.

Deaths by age groups are as follows:

Years of age.	1919	1920
15-19.....	8	7
20-24.....	20	26
25-29.....	34	29
30-34.....	39	22
35-39.....	23	23
40-44.....	16	9
45-49.....	1	1
50-59.....	0	1
Total.....	142	118

Deaths, by conjugal condition, were:

	1919	1920
Single.....	3	2
Married.....	136	115
Widowed.....	1	1
Divorced.....	2	0

<sup>14</sup> Birth data not tabulated.

Illicit pregnancies seem to have constituted a small per cent. If we admit that any number of such are camouflaged under other diagnosis as to cause of death we must confess to higher maternal rates than are actually shown.

Specific causes of maternal deaths are shown in the following table.

Cause. (International List of Causes of Death.)	1919	1920	Total.
134. Accidents of pregnancy.....	12	15	27
135. Puerperal hemorrhage.....	12	14	26
136. Accidents of labor.....	27	19	46
137. Puerperal septicemia.....	57	45	102
138. Puerperal albuminuria and convulsions.....	18	18	36
139. Puerperal phlegmasia and embolism.....	12	7	19
140. Following childbirth.....	4	0	4
141. Puerperal diseases of breast.....	0	0	0
Total.....	142	118	260

The rates (per 1,000 living births) by groups for the two years as compared with those of the United States registration area for 1919 were:

	Registra- tion area, 1919.	Montana.	
		1919	1920
All puerperal causes.....	7.4	11.8	9.9
Puerperal septicemia.....	2.5	4.7	3.8
All other causes.....	4.9	7.1	6.1

Analysis of complicating or causative factors is shown in the following table.

*Causative or complicating factors of puerperal deaths.*

Cause or complicating factor.	Puerperal septicemia.			Other causes.			Total.		Total, both years.
	1919	1920	Total.	1919	1920	Total.	1919	1920	
Abortion (or miscarriage) <sup>1a</sup> .....	26	22	48	4	7	11	30	29	59
Cæsarian section.....	1	1	2	1	3	4	2	3	5
Embolism.....	1	1	2	11	6	17	11	6	17
Extra uterine pregnancy.....	1	1	2	4	1	5	5	1	6
Influenza.....	6	1	7	25	14	39	31	15	46
Intestinal lesions.....	2	2	4	1	1	2	3	3	6
Inversion of uterus.....	1	1	2	1	1	2	1	1	2
Meningitis.....	1	1	2	1	1	2	1	1	2
Nephritis (acute or chronic).....	3	4	7	3	4	7	3	4	7
Organic heart disease.....	1	2	3	1	2	3	1	2	3
Pernicious vomiting.....	4	4	8	4	4	8	4	4	8
Phlebitis.....	1	1	2	1	1	2	1	1	2
Placenta previa.....	2	3	5	2	3	5	2	3	5
Pneumonias.....	1	1	2	2	6	8	3	6	9
Shock and exhaustion.....	5	2	7	5	2	7	5	2	7
Toxemia (no other cause assigned).....	14	12	26	14	12	26	14	12	26
Uterine rupture or laceration.....	3	3	6	3	3	6	3	3	6
Childbirth (no other cause assigned).....	22	20	42	7	7	14	29	27	56
Total.....	57	45	102	85	73	158	142	118	260

<sup>1a</sup> One-third of these were said to have been self-induced.

### RESPONSIBILITY OF OBSTETRICIANS.

To what extent are infant and maternal deaths due to defects of obstetrical practice or to absence of any obstetrical attendance? Let us consider first the physical limitations.

The total average number of physicians in the State for the years 1919 and 1920 was 653. A certain number of these engaged in specialties and did not respond to obstetrical or general practice calls. According to birth certificates filed, the number actually engaged in midwifery in 1919 was 583, of which number 182 were located in urban centers and 401 in rural sections. The average population served by each physician was 942, or 945 for urban physicians and 940 for rural physicians; though, of course, each urban physician served a considerable rural group in addition to his urban quota.

The number of physicians engaged in midwifery in the State was reduced in 1920 to 572, of which 205 were urban and 367 rural. Each served an average population of 960, or 839 for each urban physician and 1,027 for each rural physician.

The territory over which practice extended averaged 250 square miles for each physician, varying from 12.3 square miles in Silver Bow County to 2,418 square miles in Garfield County.

Supplementing obstetrical attendance by physicians, there were, in 1919, 147 midwives, and in 1920, 190 midwives. The term "midwife" is used elastically; and as Montana has no laws regulating or licensing midwives, except to specify their duties in the reporting of births, the definition includes every person from the practical nurse who makes a profession of attending obstetrical cases, to the neighbor who volunteers service when emergency demands. They flourish mainly in remote corners where physicians are not available or available only at great expense. The actual percentage of cases attended by them, as shown in the following paragraphs, is not great, and constitutes but a small part of the problem of the reduction of infant and maternal deaths. However, it is a part which must be met by efforts toward education of these "midwives" and their elimination by supplying medical aid in those districts in which great need has contributed to the survival of the midwives.

Of the 12,017 births reported in 1919, 11,489 were attended by physicians, 401 by midwives, and 127 had no attendance. Of those who had attendance, 96.6 per cent employed physicians, and 3.4 per cent midwives, an average of 19.7 births for each physician and 2.7 births for each midwife. The average number of births attended by each urban physician was 27.1 and by each rural physician 17.6.

Of the 11,682 births reported in 1920, 11,096 were attended by physicians, 399 by midwives, and 367 reported no attendants. Of

those who had attendance, 96.5 per cent employed physicians and 3.5 per cent employed midwives, an average of 19.4 births for each physician and 2.1 births for each midwife. The average number of births attended by each urban physician was 24.4 and by each rural physician 18.7.

The economic depression in agricultural districts in 1920, following the severe drought of 1919, is reflected in (1) the decrease in the number of physicians and especially of rural physicians, with a consequent increased population quota for each rural practitioner; (2) the decrease in the average number of births attended by urban physicians and an increase attended by rural physicians, owing to lack of funds to finance hospital attention; (3) the increase in the total number of midwives through inability of some of the people to pay physician's fees; and (4) the increase in the number of cases who could afford no attendance by either physician or midwife.

On account of lack of clerical help, analysis of the certificates of infant deaths has not been possible, but the following data regarding maternal deaths shed some light on the question of whether any of the fault lies with modern obstetrical practice.

These deaths occurred by months as follows:

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1919.....	19	10	15	19	12	7	11	8	7	9	11	14	142
1920.....	10	30	14	9	4	7	6	7	6	6	11	8	118
Total.....	29	40	29	28	16	14	17	15	13	15	22	22	260

The months from November to April, inclusive, constitute that period when communication, especially rural, is likely to be most difficult, and in remote areas entirely interrupted at times. Deaths during this period constitute 65.4 per cent of the total number. Although influenza recurrences during the early part of both years manifested some influence, it seems evident that the factors of difficult travel and communication, with consequent inability or delay in securing prompt medical attention, must be considered as contributory to a high maternal mortality.

Since, under vital statistics regulations, midwives are not authorized to sign death certificates, no maternal deaths are reported as having occurred under their attention, all such certificates having been signed, in the absence of an attending physician, by coroners, and are classified in the following table as "deaths with no medical attendance."

*Deaths from puerperal state.*

Cause. (International List of Causes of Death.)	Attended by physician.		No medical attendance.	
	1919	1920	1919	1920
124. Accidents of pregnancy.....	12	15	0	0
125. Puerperal hemorrhage.....	6	12	6	2
126. Other accidents of labor.....	23	14	4	5
127. Puerperal septicemia.....	53	45	4	0
128. Puerperal albuminuria and convulsions.....	18	16	0	2
129. Puerperal phlegmasia and embolism.....	11	7	1	0
140. Following childbirth.....	4	0	0	0
141. Puerperal diseases of the breast.....	0	0	0	0
Total.....	127	109	15	9

It is to be noted that 90.8 per cent of the total for the biennium secured medical attendance; but it is the length of such medical attendance that serves to guide opinion as to the culpability for these deaths. The following table is more or less self-explanatory. It should be remembered that deaths occurring over 30 days after childbirth are not classified as maternal deaths, and the length of time quoted refers to the entire period of attendance prior to and for one month after parturition.

*Length of medical attendance in maternal deaths, 1919-1920, in cases attended by physician.*

	Puerperal septicemia.	All other causes.	Total.		Puerperal septicemia.	All other causes.	Total.
1 day or less.....	17	46	63	1 to 2 months.....	1	8	9
2 days.....	8	14	22	2 to 3 months.....	6	2	2
3 days.....	3	3	6	4 to 6 months.....	0	2	2
4 to 7 days.....	41	38	79	7 to 8 months.....	0	1	1
8 to 14 days.....	23	17	40	Total.....	98	138	236
15 to 30 days.....	5	7	12				

It would appear from these tables that of the 260 persons in whom death occurred from puerperal causes during the biennium, only 14, or 5.4 per cent, had methodically subjected themselves to consistent prenatal care, instruction, or examination from the attendant called at the time of childbirth.

It is not to be inferred that 94.6 per cent of *all* mothers in Montana are neglected in the matter of prenatal care and instruction; but that percentage would seem to apply to those who died, and at least 246 mothers suffered as a penalty for this neglect.<sup>15</sup>

Doubtlessly, careless obstetrical method plays its part, and a not unimportant one, in deaths of both mothers and infants; but no

<sup>15</sup> "It is not surprising that in the remote area studied, where there has been no such propaganda (i. e., for prenatal care), more than three-fourths of the mothers had no prenatal care whatever—saw no physician, had no physical examination, measurements, or urinalysis." (Page 37, *Maternity Care and Welfare of Young Children in a Homesteading County in Montana*, United States Children's Bureau Publication No. 34, Rural Child Welfare Series No. 3, by Viola L. Paradise.)

amount of faultless technique can repair or anticipate organic defects and damage wrought by months of neglect.

The problem confronting the medical profession is not only that of reducing the number in its own ranks of those who are incompetent, unfitted, careless, or criminal in the care and treatment of motherhood, but in being able to teach, through social agencies, the duty imposed upon the expectant mother, of making a scientific preparation for the ordeal—an ordeal which involves not only life for herself and her infant, but the welfare of the family. Communities must be brought to realize their responsibility in providing lying-in facilities such that no mother, in whatever social condition need suffer for lack of them.

The life of the pioneer has ever been one of hardships and perils; but with modern means of transportation, of knowledge, and of social charity, it should be possible to materially reduce the unnecessary losses which Montana has uncomprehendingly suffered in her years of development.

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## A SURVEY OF NATURAL ILLUMINATION IN AN INDUSTRIAL PLANT.

With Special Reference to the Use of the Indoor-Outdoor Ratio in Establishing Standards of Daylight Illumination.

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Considerable attention has been devoted during the past few years to the study of the result of artificial illumination in factories, and adequate and satisfactory standards for judging such illumination have been prepared and placed in force.<sup>1</sup> So far as we are aware very little attention has been paid to the study of illumination under daylight conditions. It may, therefore, be of interest to present the results of a somewhat careful survey conducted during the war in a large munition factory in Connecticut with a special view to the development of standard procedures adapted for this type of survey.

### A. GENERAL PHYSICAL CONDITIONS.

The plant in question was a large one, including nearly 150 work-rooms. Its buildings were of two main types—the older ones of brick, receiving their natural illumination by means of ordinary sash windows with plain glass; the newer ones, of concrete, provided with fenestral windows of wire glass (mostly ribbed to diffuse the light as far as possible).

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<sup>1</sup> Bell, Louis: Industrial Lighting Codes. J. Ind. Hyg., vol. 2, p. 183.



Since the buildings were, in general, fairly low (generally four stories) and set fairly well apart (in most cases there was approximately 40 feet between buildings), the opportunities for good daylight illumination were excellent. The comparative narrowness of the buildings was also a favorable condition. As indicated in Table I, in only 9 of the 144 shops studied was there any point over 30 feet from a window.

TABLE I.—*Workrooms classified by maximum distance from windows.*

	Maximum distance from windows, in feet.				
	15-20	21-25	26-30	31-40	41+
Number of workrooms.....	37	13	85	4	5

The ratio of window space to floor space, as shown in Table II, was high for the fenestral-window type of construction, but was rather low for the brick buildings with the old-type sash windows. A ratio of 0.2 may be considered as an ample allowance for fine work, and it will be noted that this value was practically always exceeded in the former case and rarely in the latter.

TABLE II.—*Workrooms classified according to ratio of window space to floor space.*

Type of window.	Ratio of window space to floor space.						
	Under 0.05	0.05-0.09	0.1-0.14	0.15-0.19	0.2-0.24	0.25-0.29	0.3 and over.
Fenestral.....			2	5	19	41	19
Sash.....	3	12	17	17	1	3	5

The windows in general were in good condition as regards cleanliness. In estimating conditions of this kind, where no quantitative objective determinations could be made, we used five arbitrary grades, namely, bad, poor, fair, good, and excellent. In 2 shops only was the cleanliness of windows rated as bad; in 7 as poor; in 29 as fair; in 57 as good; and in 49 as excellent.

#### B. DIRECT DETERMINATIONS OF ILLUMINATION.

Actual conditions of daylight illumination were determined in 40 typical workrooms by the use of the Macbeth Illuminometer, 402 individual observations being made. The results of these observations are presented in summary in Table III. The analysis of illumination data in such a way as to bring out general relationships is a difficult task on account of the wide variation in results obtained at different points in the same workroom, and the interpretation of conditions by means of an average value for a given workroom is

almost certain to be misleading on account of the influence which may be exerted by a high reading at some single point. The method adopted in our study was to measure the illumination on working planes at from 6 to 15 different representative points in each workroom. The actual results obtained in each room are classified in Table III by convenient intervals of illumination intensity. The workrooms themselves have been divided into four groups, which we have called poor (a third or more of all observations under 2 foot-candles); fair (less than a third of all observations under 2 foot-candles); good (no observations under 2 foot-candles); and excellent (no observations under 4 foot-candles). The average results for these four groups are presented in Table IV.

TABLE III.—*Daylight illumination in 40 typical workrooms.*

Shop.	Number of observations.	Ratio, window to floor area.	Foot-candles.							
			Under 1.	1-1.9	2-3.9	4-9.9	10-19.9	20-49.9	50-99.9	100 and over.
Group I:										
1.....	9	0.13		3	4		2			
2.....	9	.25	1	3				5		
3.....	6	.02	1	2	2	1				
4.....	9	.27	2	1	2	1		2		1
5.....	9	.23	4	2	2	1				
6.....	6	.26		2			1	3		
Group II:										
7.....	9	0.20		1	1	3	2	1		1
8.....	9	.15	1	1		4	2	1		
9.....	9	.22		1	2	1	2			3
10.....	9	.25		1	1	2	1	3		1
11.....	9	.23	1	1	1	3		1		2
12.....	15	.11	1	2			4	4	1	3
13.....	15	.11	2	2	3	1		2	2	3
14.....	9	.12	1		2		4	2		
15.....	14	.27		1		6	1	2	1	3
16.....	9	.23		1	2		2	2	1	1
17.....	9	.19		1	1	3	3	1		
18.....	14	.26	3		2	1	3	1	3	1
19.....	9	.38		1		1	3	2	2	
Group III:										
20.....	9	0.18			3	2		2	2	
21.....	12	.09			2	3	2	2		3
22.....	9	.28			3	2	1	1	1	1
23.....	9	.28			2	1	3	1	1	1
24.....	9	.31			1	1	1	3	2	1
25.....	8	.28			1		3	2	1	1
26.....	16	.45			2	2	4	7	1	
Group IV:										
27.....	9	0.30				1	1	4		3
28.....	9	.30				2	2	3		2
29.....	9	.30				1	1	4		3
30.....	9	.31						5		4
31.....	12	.09				5	1	3	1	2
32.....	12	.20					2	4	2	4
33.....	9	.18				1	3	8	1	1
34.....	9	.39				1	5	2	1	
35.....	8	.27				1	3	3		1
36.....	12	.27				3	4	1		4
37.....	12	.28				1	5	2	2	3
38.....	11	.28				4	2	2	2	1
39.....	10	.28				1	4	1	2	2
40.....	12	.28				2	3	2	2	3

TABLE IV.—Average results of illumination determinations (Table III) grouped according to degree of illumination.

Group.	Number of rooms in group.	Number of observations.	Per cent of observations—							
			Under 1 f. c.	1-1.9 f. c.	2-3.9 f. c.	4-9.9 f. c.	10-19.9 f. c.	20-49.9 f. c.	50-90.9 f. c.	100 f. c. and over.
Poor.....	6	48	17	27	21	6	6	21	.....	2
Fair.....	13	139	6	9	11	18	20	16	7	13
Good.....	7	72	.....	.....	19	15	20	25	11	10
Excellent.....	14	143	.....	.....	.....	16	25	27	9	13
Total.....	40	402	4	6	10	15	20	22	8	15

Six workrooms fell in the first, or poorly lighted group. In this group as a whole the natural illumination is distinctly deficient, 44 per cent of all observations being under 2 foot-candles, which may be taken as a lower limit for even fairly rough manufacturing processes. The specific reason for the inadequate lighting varied widely in individual instances. One room had a ratio of window to floor space equal only to 0.02; and in addition, its windows were very near the level of the ground. Another shop had a window-to-floor ratio of only 0.13; and in addition, the light was obscured by the closeness of surrounding buildings. In the other instances window area was adequate, but the proximity of other buildings or the presence of obstructions of various sorts, casting shadows in the room, accounted for the low illumination.

The group representing the shops classed as "fair," from the standpoint of illumination, includes 13 workrooms in which a few observations were below 2 foot-candle illumination, but in which such records were exceptional, as indicated by the fact that only 15 per cent of all observations in this group fell below the limit stated.

Groups "good" and "excellent," including, respectively, 7 and 14 workrooms, seemed at all points to be amply supplied with daylight illumination during the period of our study, which was made in October, 1918.

The general showing for the whole series of 40 workrooms is an admirable one, only 10 per cent of all observations falling below 2 foot-candles, and 65 per cent being over 10 foot-candles.

#### C. RATIO OF INDOOR TO OUTDOOR ILLUMINATION.

Direct measurements of daylight illumination such as those described above will vary with the season of the year, the time of day, and the meteorological conditions. It can readily be seen that a strict comparison with fixed illumination standards is open to serious objections, since the results of a survey in the same shop may, even on two consecutive days, be widely different. In studying the question of natural illumination, the British Royal Commission on Light-

ing in Factories and Workshops (1915),<sup>2</sup> has attempted to find a method of making observations so as to eliminate the factor of outdoor daylight variation. They suggest the determination of the indoor illumination and the expression of this value as a percentage of the outdoor illumination, the two being obtained as nearly simultaneously as possible. The authors of the Royal Commission Report are of the opinion that this percentage is practically constant for varying conditions of outdoor illumination.

The desirability of obtaining some data on this latter point (for in the British report cited we find none) was clearly evident; and with this purpose in view, a study was made on March 12, 13, and 14, 1919, at Nathan Smith Hall in New Haven, Conn.

Conditions in and around this building were considered fairly ideal for such a study. The roof was higher than any of the surrounding roofs, and there was an unobstructed horizon in all directions. Four stations were selected in four rooms on the top floor of the building and one station on the roof. The experimental observations were made in "runs," each "run" consisting of an observation at each of the five stations, the method being to take the observations at station 1, then 2, and so on, and lastly the observation on the roof (only in one or two cases were the roof observations taken first). It is to be observed that our indoor and outdoor readings have not been made simultaneously and in this regard may be open to some criticism; but the readings were, as a rule, taken so that not more than 15 minutes elapsed between the observation at station 1 and that on the roof. Figure 1 is a graphical representation of the results obtained, and shows the variation in illumination (expressed in foot-candles) with time of day for the four indoor stations and the roof station. These diagrams clearly indicate the general correspondence in variation between the roof and indoor illumination. In only one case does there seem to be a noteworthy discrepancy in the results, namely, in the results for stations 1 and 2 on March 14. Here, it will be observed, at about 1.45 p. m. the roof lighting curve makes a sharp drop, while the curves for stations 1 and 2, on the contrary, rise. This is apparently caused by variations in the sky conditions taking place between observations. It is our belief that if our observations were made simultaneously at the indoor and roof stations such a condition would not arise. It is to be observed in this connection that the values for stations 3 and 4 correspond fairly well with the roof values. The elapsed time between observations 3 and 4 and the roof observation was about 9 minutes, whereas that between observations 1 and 2 and the roof observation was about 14 minutes.

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<sup>2</sup> First Report of the Departmental Committee on Lighting in Factories and Workshops. Home Office, 1915, vol. 1, p. 38.

Turning now from the consideration of absolute to relative values, we have expressed our indoor results as percentages of the roof illumination and have plotted these for stations 1-4 in Figure 2. The curves which have the greatest interest for us are numbers 1, 3, and

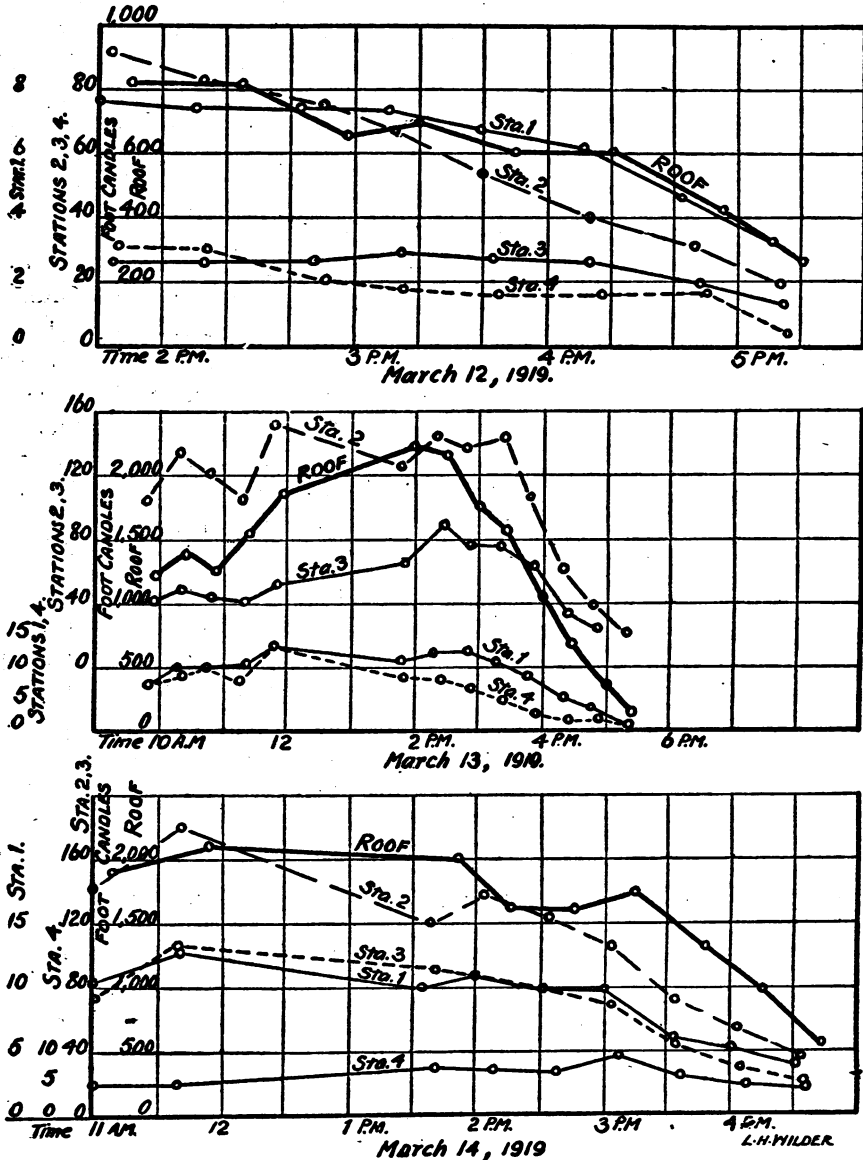


FIG. 1.—Diurnal variations in indoor and outdoor illumination (stations 1, 2, 3, and 4 indoors).

4; for these curves represent such percentages as are to be met with perhaps more often than any others in the ordinary run of shops. In the British departmental report (p. 53) we find that practically all of the observations in the engineering workshops were below 5

per cent, and a majority were below 3.5 per cent. An examination of our curves reveals the fact that they maintain themselves fairly constant with perhaps the exception of number 3 on March 13, where

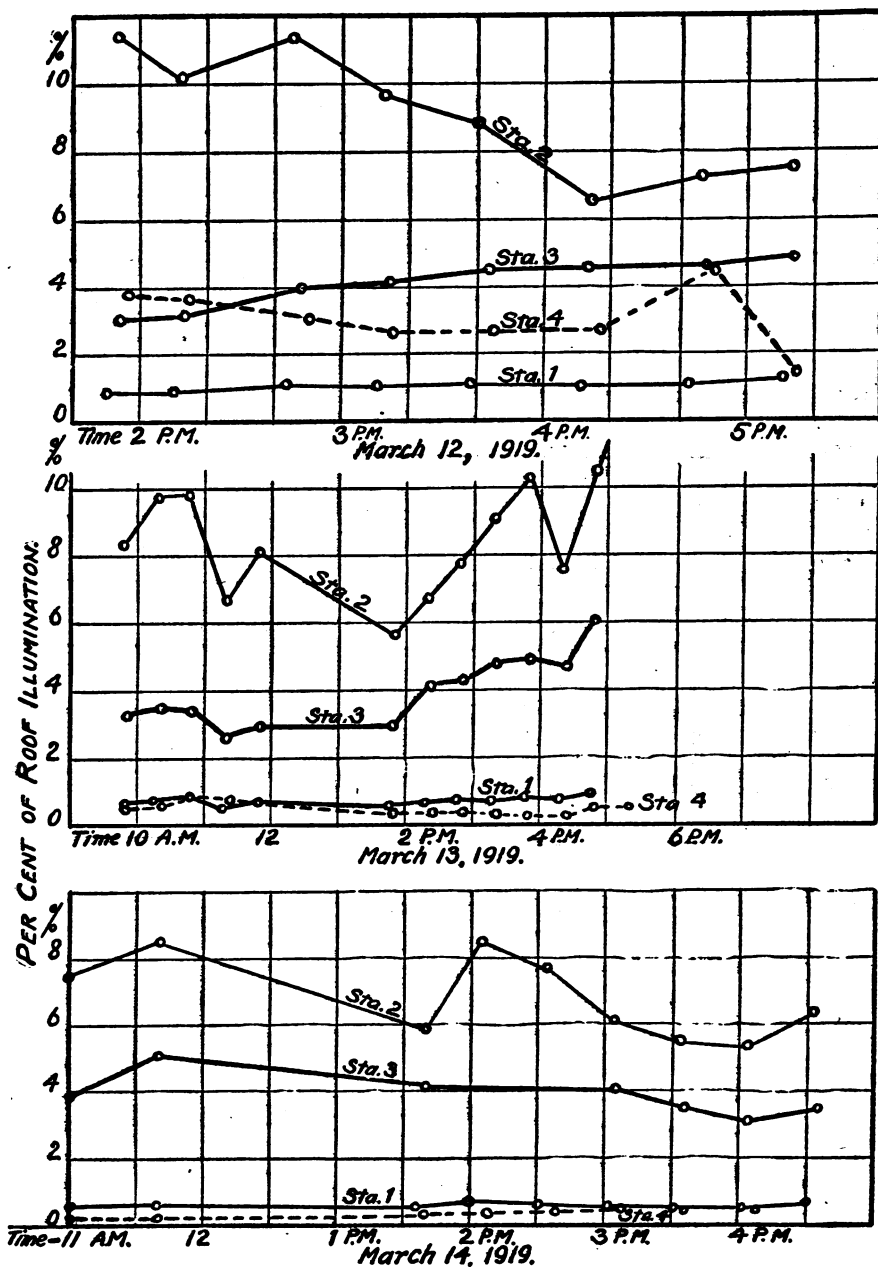


FIG. 2.—Diurnal variations in percentage of outdoor illumination recorded at various points indoors.

the curve rises from a value of 3 per cent at 2 p. m. to a value of 6 per cent at about 5 p. m. It is also to be noted that all of the curves, with one exception (No. 4 on March 12) rise gradually toward the

close of the day. The reason for this may be that when the sun is nearing the horizon the rays enter the side windows, the test plate receives an additional amount of light by reflection from the walls of the room, and, hence, a smaller percentage of the direct sunlight is lost than when these rays strike directly on the roof of the building.

This last observation calls attention to a rather important source of error in the use of the indoor-outdoor ratio. The actual figure for outdoor illumination will, in general, rise more or less steadily from winter to summer and from morning to noon. In Figure 3 we have reproduced generalized curves presented by the British departmental committee illustrating this variation. The use of the indoor-outdoor ratio assumes that at all points in this curve the fraction of daylight illumination which enters a given workroom is approximately con-

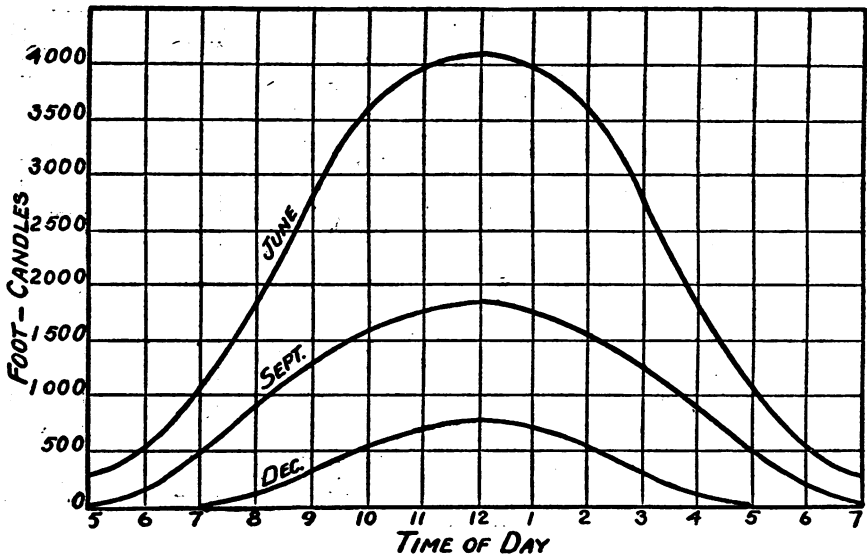


FIG. 3.—Curves showing approximate variation of daylight from 5 a. m. to 7 p. m. on average days in June, September, and December.

stant; but it is obvious that with a building facing east and west a much larger proportion of light will enter the east windows in the morning than in the afternoon or at noon when the sun is overhead. In such a case the indoor actual illumination is likely to diminish during the morning as the outside illumination increases, and such effects as this will be modified in varying degrees by reflection from adjacent buildings.

In spite of these limitations, however, it seems probable that the indoor-outdoor ratio is much more significant than the direct reading of indoor daylight illumination. With low indoor-outdoor ratios the effect of diurnal variations will not be great; and in a given instance a common sense interpretation of results and a checking up of actual readings and ratios will remove all serious errors.

TABLE V.—*Workrooms classified according to percentage of daylight illumination (indoor-outdoor ratio).*

## GROUP I.

Shop number.	Number of observations.	Ratio of window to floor area.	Per cent of daylight.							
			Under 0.1.	0.1-0.19	0.2-0.39	0.4-0.99	1-1.9	2-4.9	5-9.9	10+
3.....	6	0.02	1	3	1	1				
5.....	9	.28	4	3	1	1				
2.....	9	.25	1	1	2			5		
12.....	15	.11	2	4	2		1	3		3
13.....	15	.11	2	1		1	4	3	1	3
8.....	9	.15	1	1		3	2	2		
4.....	9	.27		2	1	3			2	1
18.....	14	.26		3		2	1	3	1	4

## GROUP II.

10.....	9	0.25		1	1	2		2	2	1
11.....	9	.23		1	2	2	1		1	2
14.....	9	.12		1		2		4	2	
19.....	9	.38		1		3	3	2		
1.....	9	.13			3	4		2		
6.....	6	.26			1	1		1	3	
9.....	9	.22			2	1	3			3
16.....	9	.28			1	2		3	1	2
20.....	9	.13			5			2	2	
7.....	9	.20		1		1	3	2	1	1
26.....	16	.45			2	2	7	4	1	
25.....	8	.28			1	3		3		1

## GROUP III.

17.....	9	0.19				2	3	3		1
23.....	9	.28				3		3	2	1
22.....	9	.28				3	2	1	1	2
24.....	9	.31				2		2	2	3
21.....	12	.09				3	2	2	2	3
40.....	12	.28				3	3	3		3
39.....	10	.28				3	2	2	2	1
38.....	11	.28				6	1	3		1
37.....	12	.28				4	3	1	2	2

## GROUP IV.

15.....	14	0.27					6	2	2	4
36.....	12	.27					3	5	1	3
32.....	12	.20						3	3	6
34.....	9	.39					1	6	1	1
35.....	8	.27					1	3	3	1
33.....	9	.18					3		1	2
30.....	9	.31					1	4		4
31.....	12	.09				1	4	1	3	3
27.....	9	.30				1	2	3		3
28.....	9	.30				1	2	3		3
29.....	9	.30				1	2	3		3

TABLE VI.—*Percentage of daylight illumination (indoor-outdoor ratio) of workrooms (Table V) grouped according to degree of illumination.*

Group.	Number of rooms.	Number of observations.	Per cent of observations in each ratio class.							
			Under 0.1.	0.1-0.19	0.2-0.39	0.4-0.99	1-1.9	2-4.9	5-9.9	10 and over.
Poor.....	8	86	13	21	8	13	9	19	4	13
Fair.....	12	111	.....	4	17	21	15	22	12	9
Good.....	9	93	.....	.....	.....	31	17	22	12	18
Excellent....	11	112	.....	.....	.....	4	22	32	13	29
Total.....	40	402	3	6	6	17	16	24	10.5	17.5



In Table V we have expressed in terms of the indoor-outdoor ratio the results of our 402 observations in 40 workrooms. In classifying these observations we have found it convenient to use somewhat the same relative intervals of distribution as those adopted in Table III. In computing these figures we have used in each case the actual outdoor illumination at the given time; but in order to gain an idea of what these results mean on the average, it may be stated that the mean outdoor daylight illumination during the period of our study was somewhat less than 1,000 foot-candles, so that an actual indoor illumination of 100 foot-candles would roughly correspond to over 10 per cent of the daylight illumination. In Table VI we have divided the workrooms into groups according to the ratio of indoor and outdoor illumination, classing as "poor," rooms in which one-fifth or more of all observations were under 0.2 per cent of the outdoor value; as "fair," those in which less than one-fifth of all observations were under 0.2 per cent; as "good," those in which no observations were under 0.4 per cent, but one-fifth or more were under 1 per cent; and as "excellent," the workrooms in which practically all values were over 1 per cent of the outside value.

On this basis, 8 workrooms fall into the group with poor illumination. Four of these workrooms were also in the lowest class on the basis of direct measurement. Two workrooms, however, show a fair ratio of inside to outside illumination in spite of the fact that the actual illumination on the day when it was measured in these shops was low. As a matter of fact, these shops were studied on dark days with an outdoor illumination of between 400 and 500 foot-candles.

On the other hand, four workrooms which were classed as "fair" on actual illumination show a "poor" ratio of inside to outside illumination. In three cases the outside illumination was over 700 foot-candles, and in the first two it was over 1,300 foot-candles when our measurements were made. In all four of these workrooms daylight illumination was seriously hampered by exterior or interior obstructions.

Finally, to bring out the general relationship between direct light measurements and the indoor-outdoor ratio, we have compared, in Table VII, the results obtained by the two methods.

TABLE VII.—Comparison of results obtained by the two methods of measuring illumination.

		Classified by indoor-outdoor ratio.				Total, direct measure- ment.
		Poor.	Fair.	Good.	Excellent.	
Classified by direct measurement	Poor.....	4	2	.....	.....	6
	Fair.....	4	7	1	1	13
	Good.....	.....	3	4	.....	7
	Excellent.....	.....	.....	4	10	14
Total, indoor-outdoor ratio.....		8	12	9	11	40

It is evident that the two methods of classification roughly coincide, the indoor-outdoor ratio standards adopted in Table VI being somewhat more severe than the direct illumination standards used in grouping the data of Table IV. It may be tentatively concluded that an indoor-outdoor ratio of over 0.4 per cent (our "excellent" and "good" groups) will almost always in summer give a direct illumination of over 2 foot-candles, generally a value of over 4 foot-candles. On the other hand, a workroom with an indoor-outdoor ratio often falling below 0.4 per cent (our "poor" group) is likely to show a considerable proportion of observations below 2 foot-candles.

Two foot-candles of direct illumination or 0.4 per cent of the outdoor illumination at a given time may perhaps be taken as a tentative standard for general daylight illumination in such an industry as small-arms manufacture, with special illumination at particular working planes where inspection and other fine work are carried on.

#### D. RELATION BETWEEN BUILDING CONSTRUCTION AND DAYLIGHT ILLUMINATION.

In order to bring out the relationship between building construction and lighting results, we have once more divided the workrooms studied into three groups: (a) Rooms in old type brick buildings (type A) with sash windows, having in the cases studied a ratio of window space to floor space less than 0.2, the rooms being (in every case but one) less than four stories above the ground; (b) rooms in new concrete buildings with fenestral windows (type B), having in the cases studied a ratio of window space to floor space always over 0.2, the rooms, however, being located in the third story or below; and (c) rooms like those described in (b) but above the third story (type C). The results of our observations are summarized on this basis in Table VIII.

TABLE VIII.—*Type of building and daylight illumination (percentage of outdoor value).*

Type of building.	Number of work-rooms.	Number of obser-vations.	Per cent of observations showing various percentages of outdoor illumination.							
			Under 0.1 per cent.	0.1-0.19 per cent.	0.2-0.39 per cent.	0.4-0.99 per cent.	1-1.9 per cent.	2-4.9 per cent.	5-9.9 per cent.	10 per cent and over.
A.....	11	114	5	9	10	15	17	22	9	13
B.....	20	198	3	6	8	19	17	22	11	14
C.....	9	90	.....	.....	.....	14.5	14.5	30	11	30
Total.....	40	402	3	5	6	17	17	24	10	18

The buildings of type B, with fenestral windows and a high ratio of window to floor space, show somewhat better results than those of type A (sash windows and low ratio of window space to floor

space). In the latter type, 14 per cent of all observations show an indoor illumination equal to less than 0.2 per cent of the outdoor value, whereas 9 per cent of the observations in the buildings with fenestral windows were below this ratio. The difference is, however, much less than we had anticipated.

If the window-to-floor ratio does not appear to be highly significant in these instances, the effect of sky angle is exceedingly clear cut. It will be noted that the fenestral-window workrooms above the third floor (type C) showed in every one of 90 individual measurements over 0.4 per cent of the outdoor illumination, and in 71 per cent of these measurements over 2 per cent of the outdoor value. These higher rooms practically all enjoyed the advantage of an unobstructed sky exposure.

From this somewhat extended analysis—an analysis warranted only by the entire lack of American standards based on the indoor-to-outdoor illumination ratio and the meagerness of published results in regard even to direct daylight measurements—we may conclude that the natural illumination of this plant is, in general, excellent, 86 per cent of all observations being in excess of the tentative limit of 0.4 per cent suggested above. The illumination above the third story of the fenestral-window buildings (window to floor ratio over 0.2—sky exposure unobstructed) is practically perfect, whereas the lower stories of these same buildings (sky angle approximately 45°) show 17 per cent of all observations below 0.4 per cent, and the sash-window rooms (window-to-floor-space ratio under 0.2) in low buildings show 24 per cent of all observations below this standard.

We made no special study of the daylight glare problem in this plant; but with a few exceptions this condition was well controlled by arranging working planes at right angles to the windows, by placing machines so that the operator did not face the window when at work, and by the use of shades.

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### CASES OF INFLUENZA REPORTED BY STATES, 1922.

The accompanying table shows, by weeks, the number of cases of influenza reported by State health officers from January 22 to April 8, 1922.

On pages 640–641 of the Public Health Reports for March 17, 1922, appears a table giving the number of cases of influenza reported by State health officers during the first 10 weeks of the years 1920, 1921, and 1922.

The aggregate estimated population of the 29 States and the District of Columbia is approximately 67,800,000.

*Number of cases of influenza reported by States from Jan. 22 to Apr. 8, 1922, inclusive, by weeks.*

State.	Number of cases reported during week ended—										
	Janu- ary—	February—				March—				April—	
	28	4	11	18	25	4	11	18	25	1	8
Alabama.....	3	26	95	29	20	31	185	340	177	410	160
Arkansas.....	88	192	232	158	202	371	409	529	1,032	302	300
California.....	48	92	845	4,315	10,033	9,917	4,627	3,289	1,169	717	294
Colorado (exclusive of Denver).....	2	4	6	17	12	67	937	755	146	185	21
Connecticut.....	22	109	518	1,325	675	711	486	194	146	71	41
Delaware.....	2	7	2	2	9	2	2	16	38	11	5
District of Columbia...	7	5	9	8	7	9	9	3	4	6	1
Florida.....	6	15	35	123	118	68	72	74	57	36	31
Georgia.....	64	74	81	128	162	179	149	268	470	407	154
Illinois.....	125	108	417	633	1,069	809	735	765	696	180	123
Kansas.....	121	364	440	480	901	626	557	524	321	352	124
Kentucky.....	51	332	640	705	748	1,088	495	548	398	358	.....
Louisiana.....	8	10	39	36	368	469	1,603	3,527	3,669	3,232	355
Maine.....	14	97	145	131	441	487	352	223	222	158	215
Maryland.....	93	110	189	263	431	612	814	728	409	411	306
Massachusetts.....	66	398	1,469	1,764	1,285	904	521	292	190	96	38
Minnesota.....	.....	2	12	10	44	71	209	245	16	206	8
Missouri.....	20	71	99	234	313	406	279	491	303	189	169
Montana.....	.....	1	.....	.....	188	178	263	674	435	53	14
Nebraska.....	.....	6	6	10	161	66	119	157	164	179	97
New Jersey.....	126	426	1,288	1,555	918	512	221	117	97	79	47
New Mexico.....	.....	10	14	35	92	304	209	437	1,534	87	250
New York (exclusive of New York City)...	173	694	771	1,577	1,568	1,774	1,973	1,796	1,424	773	824
New York City.....	1,230	5,731	7,070	3,284	1,312	592	310	173	120	99	59
Oregon.....	7	31	168	442	616	782	250	158	126	48	7
South Dakota.....	.....	1	1	1	.....	.....	11	51	56	.....	4
Texas.....	5	57	141	123	76	353	1,181	240	237	154	543
Vermont.....	1	7	2	12	1	2	15	9	9	24	1
Washington.....	33	176	1,061	902	360	389	81	116	17	26	3
West Virginia.....	.....	62	59	.....	82	446	178	143	98	66	46
Wisconsin.....	22	24	37	22	73	129	321	543	772	628	933
Total.....	2,338	9,180	15,894	18,383	22,285	22,352	17,573	17,425	14,542	9,543	5,173
Number of States re- porting cases.....	25	29	29	29	29	28	30	30	30	29	29

## DEATHS FROM INFLUENZA AND PNEUMONIA COMBINED

IN CERTAIN LARGE CITIES OF THE UNITED STATES, JANUARY 22 TO APRIL 8, 1922.

The accompanying table gives the number of reported deaths from influenza and pneumonia (all forms) combined, by weeks, from January 22 to April 8, 1922, inclusive, in 63 large cities of the United States.

The data were furnished by city health officers. Use was made of the figures contained in the Weekly Health Index, issued by the Bureau of the Census, in supplying deficiencies in the figures.

On pages 642-644 of the Public Health Reports for March 17, 1922, appears a table giving the number of deaths from influenza and pneumonia (all forms) combined, in 36 of these cities during the first 10 weeks of the years 1919, 1920, 1921, and 1922.

The population of the 63 cities, estimated as of July, 1921, is approximately 27,500,000.

*Number of deaths from influenza and pneumonia (all forms) combined, in large cities, from Jan. 22 to Apr. 8, 1922, inclusive, by weeks.*

City.	Number of deaths reported during week ended—										
	Janu- ary—	February—				March—				April—	
	28	4	11	18	25	4	11	18	25	1	8
Birmingham, Ala.....	6	13	4	4	14	9	7	7	10	11	13
Los Angeles, Calif.....	21	26	29	33	79	84	69	64	43	27	13
Oakland, Calif.....	6	8	8	12	12	16	18	11	6	6	.....
San Francisco, Calif.....	12	9	15	36	79	51	31	22	9	8	.....
Denver, Colo.....	17	18	16	19	22	26	40	29	26	25	17
Bridgeport, Conn.....	3	4	3	8	19	9	5	9	11	8	13
Hartford, Conn.....	2	.....	3	7	4	6	4	1	4	1	3
New Haven, Conn.....	4	13	10	14	30	27	23	23	15	13	15
Wilmington, Del.....	5	9	8	6	8	8	9	1	7	7	7
Washington, D. C.....	27	25	22	27	26	27	22	21	24	18	20
Atlanta, Ga.....	7	20	17	11	16	13	20	12	33	32	21
Chicago, Ill.....	65	72	80	56	94	139	150	130	92	65	98
Indianapolis, Ind.....	17	29	42	39	38	38	24	20	10	6	13
Kansas City, Kans.....	6	5	5	13	21	16	11	5	7	4	5
Louisville, Ky.....	7	16	24	28	25	19	16	15	11	7	12
New Orleans, La.....	13	19	25	20	19	31	52	37	33	17	7
Baltimore, Md.....	26	29	27	29	40	47	71	63	38	59	42
Boston, Mass.....	23	33	38	51	83	84	61	67	42	34	31
Cambridge, Mass.....	4	7	7	8	9	8	16	4	5	10	6
Fall River, Mass.....	6	5	7	9	22	29	24	15	18	7	6
Lowell, Mass.....	4	4	6	5	13	11	4	5	1	3	3
New Bedford, Mass.....	1	1	5	8	8	25	13	13	11	10	7
Springfield, Mass.....	4	7	0	6	5	8	9	8	8	12	8
Worcester, Mass.....	7	16	16	16	15	13	4	5	4	1	7
Detroit, Mich.....	33	34	54	45	71	93	104	86	70	49	47
Grand Rapids, Mich.....	.....	4	2	1	2	5	3	4	5	2	5
Minneapolis, Minn.....	9	6	9	4	8	19	20	31	11	12	4
St. Paul, Minn.....	3	8	6	6	5	9	18	29	17	7	.....
Kansas City, Mo.....	25	25	28	39	71	52	41	34	22	15	20
St. Louis, Mo.....	42	44	58	68	71	108	83	83	59	37	59
Omaha, Nebr.....	12	16	12	11	17	16	9	6	10	5	11
Camden, N. J.....	7	11	4	3	12	4	7	9	8	6	5
Jersey City, N. J.....	14	25	30	28	34	20	20	14	8	26	15
Newark, N. J.....	20	33	33	46	37	28	20	15	20	24	12
Paterson, N. J.....	8	11	16	19	23	12	11	12	5	6	10
Trenton, N. J.....	11	22	23	10	24	13	3	8	8	6	7
Albany, N. Y.....	.....	6	13	7	8	10	13	10	9	4	5
Buffalo, N. Y.....	19	21	15	15	20	22	36	31	30	31	18
New York, N. Y.....	302	481	596	576	548	404	331	287	282	253	237
Rochester, N. Y.....	14	6	7	14	11	11	18	26	25	16	15
Syracuse, N. Y.....	6	7	7	7	6	7	3	5	5	5	13
Yonkers, N. Y.....	7	9	12	18	9	7	4	2	4	1	2
Akron, Ohio.....	4	4	4	6	11	17	9	10	19	13	8
Cincinnati, Ohio.....	19	21	27	41	54	49	42	32	26	18	14
Cleveland, Ohio.....	28	25	18	25	60	55	61	62	44	19	41
Columbus, Ohio.....	10	8	6	10	11	13	20	19	10	11	11
Toledo, Ohio.....	12	7	6	5	6	10	15	19	19	19	8
Youngstown, Ohio.....	9	12	11	11	8	13	17	16	19	6	2
Portland, Oreg.....	6	5	15	17	27	32	28	25	21	8	.....
Philadelphia, Pa.....	86	85	91	101	162	136	143	131	93	97	78
Pittsburgh, Pa.....	47	60	80	109	99	92	60	38	43	28	56
Providence, R. I.....	17	11	15	26	32	39	19	22	13	12	9
Memphis, Tenn.....	12	10	18	16	21	21	7	13	11	7	3
Nashville, Tenn.....	3	5	5	4	10	17	16	12	15	8	2
Dallas, Tex.....	7	12	9	7	12	19	15	10	14	9	9
Fort Worth, Tex.....	2	11	2	10	9	5	7	9	2	3	3
Houston, Tex.....	3	3	5	3	2	3	7	5	14	13	5
Salt Lake City, Utah.....	7	5	11	3	10	7	12	12	9	4	13
Norfolk, Va.....	5	3	3	4	14	12	11	4	7	2	2
Richmond, Va.....	4	8	9	12	21	19	8	8	12	3	9
Seattle, Wash.....	5	18	24	39	17	22	13	6	13	6	12
Spokane, Wash.....	7	3	4	9	9	12	12	4	8	0	4
Milwaukee, Wis.....	8	18	11	14	14	11	18	17	15	18	22
Total.....	1,131	1,491	1,716	1,854	2,287	2,186	1,987	1,758	1,494	1,200	1,164
Number of cities re- porting deaths.....	61	62	63	63	63	63	63	63	63	63	59

## MORTALITY FROM TYPHOID FEVER, 1920.

The Department of Commerce, through the Bureau of the Census, announces lower mortality rates from typhoid fever in recent years. The amount of typhoid fever in a community is recognized as one of the best indexes of its healthfulness. So, also, the mortality rate from this cause is a very important sanitary index.

The steadily decreasing mortality rate from typhoid fever is therefore most gratifying, a decrease in the registration States of 1916 from 13.3 per 100,000 population in 1916 to 7 in 1920. Of the States in the registration area in 1920, Massachusetts and Wisconsin share the honor of having the lowest rate (2.5), while the highest (22.4) appears for South Carolina. Of the 11 States showing rates by color, the lowest rate for the white population was 3.6, and the lowest for the colored was 4.6, both for New York State; whereas the highest rate for the white population was 19.1 for Kentucky, and the highest for the colored was 30.2 for the same State.

Of the 33 States shown for 1919 and 1920 in the accompanying table, only 9 show higher rates in 1920 than in 1919. These States with their rates for 1919 and 1920, are as follows:

State.	1920	1919	State.	1920	1919
Colorado.....	9.2	8.5	New Hampshire.....	6.8	3.4
Connecticut.....	4.1	4.0	New Jersey.....	3.3	3.2
Kansas.....	8.0	7.3	Vermont.....	10.5	3.1
Maine.....	9.0	5.7	Washington.....	5.6	4.2
Michigan.....	7.9	7.6			

*Deaths and death rates from typhoid fever in the registration area (exclusive of Hawaii) and in the registration States, 1916-1920.*

Area.	Number of deaths.			Rate per 100,000 population.				
	1920	1919	1918	1920	1919	1918	1917	1916
Registration area <sup>1</sup> .....	6,805	7,860	10,210	7.8	9.2	12.6	13.5	13.3
Registration States <sup>2</sup> (1916).....	4,890	5,588	7,722	7.0	8.1	11.3	12.5	13.3
California.....	166	182	196	4.8	5.4	6.0	6.9	6.9
Colorado.....	87	79	141	9.2	8.5	15.4	10.3	13.2
Connecticut.....	57	55	72	4.1	4.0	5.4	9.0	7.2
Delaware.....	25	39	( <sup>3</sup> )	11.2	17.6	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
Florida (total).....	143	175	( <sup>3</sup> )	14.6	18.3	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
White.....	86	111		13.3	17.7			
Colored.....	57	64		17.2	19.4			
Illinois.....	380	383	519	5.8	5.9	8.2	( <sup>3</sup> )	( <sup>3</sup> )
Indiana.....	284	332	400	9.7	11.4	13.8	17.2	21.2
Kansas.....	141	129	292	8.0	7.3	16.6	18.8	14.9
Kentucky (total).....	490	648	651	20.2	26.9	27.2	35.1	31.1
White.....	419	536	540	19.1	24.7	25.0	31.6	29.1
Colored.....	71	112	111	30.2	47.2	46.2	65.9	48.1
Louisiana (total).....	280	408	709	15.5	22.8	39.9	( <sup>3</sup> )	( <sup>3</sup> )
White.....	129	221	380	11.7	20.3	35.4		
Colored.....	151	187	329	21.5	26.6	46.7		
Maine.....	69	44	59	9.0	5.7	7.7	10.8	11.3

<sup>1</sup> For the years indicated at top of columns.

<sup>2</sup> Figures in each column reading across are for the States in the registration area in 1916, including the District of Columbia.

<sup>3</sup> Not admitted to registration area until a later date.

*Deaths and death rates from typhoid fever in the registration area (exclusive of Hawaii) and in the registration States, 1916-1920—Continued.*

Area.	Number of deaths.			Rate per 100,000 population.				
	1920	1919	1918	1920	1919	1918	1917	1916
Maryland (total).....	100	170	242	6.9	11.8	17.0	18.2	19.0
White.....	68	112	157	5.6	9.4	13.3	15.8	16.1
Colored.....	32	58	85	13.0	23.7	35.0	29.4	32.8
Massachusetts.....	95	105	153	2.5	2.7	4.1	4.9	4.7
Michigan.....	294	275	334	7.9	7.6	9.4	11.3	12.8
Minnesota.....	71	79	87	3.0	3.3	3.7	4.3	5.5
Mississippi (total).....	333	364	( <sup>a</sup> )	18.6	20.3	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
White.....	99	130	.....	11.5	15.3	.....	.....	.....
Colored.....	234	234	.....	25.1	24.9	.....	.....	.....
Missouri.....	341	426	665	10.0	12.5	19.6	20.8	19.5
Montana.....	27	39	53	4.8	7.2	10.1	15.7	10.9
Nebraska.....	58	( <sup>a</sup> )	( <sup>a</sup> )	4.5	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
New Hampshire.....	30	15	20	6.8	3.4	4.5	6.1	5.0
New Jersey.....	105	100	167	3.3	3.2	5.5	6.7	7.1
New York (total).....	379	374	585	3.6	3.6	5.7	5.9	6.2
White.....	369	367	571	3.6	3.6	5.7	5.8	6.2
Colored.....	10	7	14	4.6	3.3	6.9	7.6	6.3
North Carolina (total).....	322	444	570	12.5	17.5	22.8	29.5	28.9
White.....	167	255	307	9.3	14.4	17.6	23.0	22.1
Colored.....	155	189	263	19.9	24.5	34.4	44.2	44.0
Ohio.....	435	457	762	7.5	8.0	13.6	12.6	14.2
Oregon.....	39	38	73	4.9	4.9	9.5	( <sup>a</sup> )	( <sup>a</sup> )
Pennsylvania (total).....	503	612	934	5.7	7.1	10.9	10.7	13.9
White.....	464	574	824	5.5	6.8	10.7	10.4	13.7
Colored.....	39	38	50	13.4	13.4	18.3	17.8	19.2
Rhode Island.....	17	20	34	2.8	3.3	5.7	5.8	7.2
South Carolina (total).....	379	440	588	22.4	26.3	35.5	31.9	34.3
White.....	131	130	207	15.9	16.0	26.0	22.6	27.6
Colored.....	248	310	381	28.6	35.9	44.3	40.3	40.1
Tennessee (total).....	434	653	699	18.5	28.0	30.2	38.3	( <sup>a</sup> )
White.....	311	462	499	16.4	24.6	26.8	35.1	.....
Colored.....	123	191	200	27.3	42.2	43.9	51.4	.....
Utah.....	31	42	41	6.8	9.4	9.4	13.7	10.7
Vermont.....	37	11	30	10.5	3.1	8.5	7.1	6.5
Virginia (total).....	260	357	407	11.2	15.5	17.9	20.8	24.8
White.....	157	210	249	9.6	13.1	15.7	15.2	20.6
Colored.....	103	147	158	14.9	21.3	23.0	33.4	34.2
Washington.....	76	57	98	5.6	4.2	7.4	9.4	6.2
Wisconsin.....	65	80	97	2.5	3.1	3.8	5.2	7.9

<sup>a</sup>Not admitted to registration area until a later date.

## DEATH RATES IN A GROUP OF INSURED PERSONS.

COMPARISON OF DEATH RATES FOR PRINCIPAL CAUSES, FOR JANUARY AND FEBRUARY, 1922, AND FEBRUARY AND YEAR, 1921.

The accompanying table is taken from the Statistical Bulletin of the Metropolitan Life Insurance Co. for March, 1922. It presents the mortality data of the industrial department of the company for January and February, 1922, and February and year, 1921. The figures are based on a strength of approximately 13,500,000 insured persons.

The gross death rate among this group rose 11.1 per cent in February as compared with the rate for January, 1922, an increase in which higher mortality from influenza and pneumonia was a large factor. The influenza death rate rose from 12.6 per 100,000 in January to 46.1 in February, and the pneumonia death rate increased from 101.5 in January to 133.4 in February. The death rate for all causes for February, 1922, however, is only slightly higher than that for the

corresponding month of 1921, namely, 965.7, which is stated to be the lowest rate for the month of February on the records of the company.

Increased mortality in February is also noted among this group for organic heart disease, puerperal conditions, and, to a less extent, for other important causes of death.

*Death rates (annual basis) for principal causes per 100,000 lives exposed for January and February, 1922, and February and year, 1921.*

[Industrial Department, Metropolitan Life Insurance Co.]

Cause of death.	1922		1921	
	Febru- ary.	January.	Febru- ary.	Year. <sup>1</sup>
Total, all causes.....	1,010.7	910.0	965.7	853.8
Typhoid fever.....	1.9	3.7	4.0	6.6
Measles.....	2.5	2.3	4.3	3.1
Scarlet fever.....	9.0	7.2	10.1	6.9
Whooping cough.....	2.9	1.9	5.7	3.9
Diphtheria.....	21.9	24.7	27.3	23.3
Influenza.....	46.1	12.6	12.7	8.6
Tuberculosis (all forms).....	108.7	102.3	122.7	115.1
Tuberculosis of respiratory system.....	100.4	93.1	112.3	103.6
Cancer.....	72.5	69.0	65.7	70.4
Cerebral hemorrhage.....	69.1	63.7	62.2	60.9
Organic diseases of heart.....	153.4	137.2	126.8	115.0
Pneumonia (all forms).....	133.4	101.5	106.7	66.5
Other respiratory diseases.....	20.9	16.0	17.0	14.1
Diarrhea and enteritis.....	6.3	7.7	10.3	13.9
Bright's disease (chronic nephritis).....	75.8	74.5	74.8	66.7
Puerperal state.....	21.6	17.3	21.4	19.5
Suicides.....	6.3	6.0	7.4	7.5
Homicides.....	4.6	7.3	5.6	6.6
Other external causes (excluding suicides and homicides).....	46.7	47.9	46.0	56.2
Traumatism by automobile.....	7.4	8.5	6.8	11.9
All other causes.....	207.0	207.6	205.3	189.0

<sup>1</sup> Based on provisional estimates of lives exposed to risk in 1921.

## DEATHS DURING WEEK ENDED APRIL 1, 1922.

*Summary of information received by telegraph from industrial insurance companies for week ended Apr. 1, 1922, and corresponding week, 1921. (From the Weekly Health Index, Apr. 4, 1922, issued by the Bureau of the Census, Department of Commerce.)*

	Week ended Apr. 1, 1922.	Corresponding week, 1921.
Policies in force.....	44,924,585	46,412,907
Number of death claims.....	9,879	9,129
Death claims per 1,000 policies in force, annual rate.....	11.5	10.3



*Deaths from all causes in certain large cities of the United States during the week ended Apr. 1, 1922, infant mortality, annual death rate, and comparison with corresponding week of 1921. (From the Weekly Health Index, Apr. 4, 1922, issued by the Bureau of the Census, Department of Commerce.)*

City.	Estimated population July 1, 1921.	Week ended Apr. 1, 1922.		Annual death rate per 1,000, corresponding week, 1921.	Deaths under 1 year.		Infant mortality rate, week ended Apr. 1, 1922. <sup>3</sup>
		Total deaths.	Death rate. <sup>1</sup>		Week ended Apr. 1, 1922.	Corresponding week, 1921.	
Total.....	27,496,374	7,509	14.2	12.8	1,027	911	.....
Akron, Ohio.....	*208,435	40	10.0	10.9	12	13	127
Albany, N. Y.....	115,071	40	18.1	14.5	1	3	22
Atlanta, Ga.....	*220,047	95	22.5	13.1	8	7	.....
Baltimore, Md.....	750,864	263	18.3	17.2	34	36	96
Birmingham, Ala.....	186,133	47	13.2	14.0	5	8	.....
Boston, Mass.....	757,634	237	16.3	15.7	35	36	94
Bridgeport, Conn.....	*143,555	34	12.4	9.0	5	8	62
Buffalo, N. Y.....	519,608	175	17.6	12.6	34	26	134
Cambridge, Mass.....	110,444	36	17.0	14.6	5	4	91
Camden, N. J.....	119,672	31	13.5	9.6	2	4	31
Chicago, Ill.....	2,780,655	659	12.4	11.5	98	103	.....
Cincinnati, Ohio.....	403,418	105	13.6	14.9	17	10	113
Cleveland, Ohio.....	831,138	191	12.0	11.2	27	22	70
Columbus, Ohio.....	245,358	78	16.6	11.7	11	14	116
Dallas, Tex.....	165,282	34	10.7	10.1	3	4	.....
Dayton, Ohio.....	*152,559	41	14.0	13.2	6	5	102
Denver, Colo.....	263,152	97	19.2	17.2	14	12	.....
Detroit, Mich.....	1,070,450	239	11.6	9.7	44	45	85
Fall River, Mass.....	120,668	41	17.7	12.1	7	4	98
Fort Worth, Tex.....	111,423	27	12.6	.....	2	.....	.....
Grand Rapids, Mich.....	141,197	43	15.9	12.6	5	5	83
Houston, Tex.....	144,340	40	14.5	11.6	2	3	.....
Indianapolis, Ind.....	325,632	63	10.1	11.7	7	3	53
Jersey City, N. J.....	302,788	91	15.7	17.0	13	13	83
Kansas City, Kans.....	103,884	29	14.6	13.6	2	0	46
Kansas City, Mo.....	336,157	98	15.2	13.8	4	8	.....
Los Angeles, Calif.....	614,160	201	17.1	13.9	17	15	71
Louisville, Ky.....	236,063	78	17.2	15.9	15	4	162
Lowell, Mass.....	113,757	29	13.3	15.1	3	3	50
Memphis, Tenn.....	165,656	46	14.5	14.2	10	4	.....
Milwaukee, Wis.....	468,386	120	13.4	10.7	22	15	108
Minneapolis, Minn.....	382,815	96	12.7	12.7	11	7	60
Nashville, Tenn.....	122,036	42	17.9	15.0	5	4	.....
New Bedford, Mass.....	125,012	44	18.4	11.7	8	3	119
New Haven, Conn.....	167,007	40	12.5	12.8	9	7	110
New Orleans, La.....	394,657	107	14.1	14.4	8	13	.....
New York, N. Y.....	5,751,867	1,534	13.9	12.5	244	179	94
Newark, N. J.....	424,885	115	14.1	12.4	11	18	49
Norfolk, Va.....	121,260	26	11.2	10.3	3	4	53
Oakland, Calif.....	226,472	55	12.7	7.1	4	2	50
Omaha, Nebr.....	197,066	57	15.1	11.4	4	5	43
Pateron, N. J.....	137,463	40	15.2	14.4	7	3	108
Philadelphia, Pa.....	1,886,212	566	15.8	15.8	77	77	91
Pittsburgh, Pa.....	602,452	174	15.1	9.9	32	25	102
Portland, Oreg.....	264,859	69	13.6	12.2	2	7	20
Providence, R. I.....	239,645	71	15.4	14.4	8	9	63
Richmond, Va.....	175,686	50	14.8	14.5	7	8	85
Rochester, N. Y.....	305,229	84	14.4	13.3	13	7	100
St. Louis, Mo.....	786,164	200	13.3	11.9	14	18	.....
St. Paul, Minn.....	237,781	54	11.8	13.8	10	5	94
Salt Lake City, Utah.....	121,595	31	13.3	8.1	2	3	30
San Francisco, Calif.....	520,546	142	14.2	16.8	16	15	92
Seattle, Wash.....	*315,312	74	12.2	8.9	7	3	59
Spokane, Wash.....	104,442	23	11.5	10.5	3	4	64
Springfield, Mass.....	135,877	41	15.7	11.5	6	4	89
Syracuse, N. Y.....	177,265	52	15.3	11.2	7	1	84
Toledo, Ohio.....	253,696	77	15.8	13.2	8	11	78
Trenton, N. J.....	122,760	38	16.1	15.3	3	4	46
Washington, D. C.....	*437,571	128	15.3	12.5	12	10	69
Wilmington, Del.....	113,408	32	14.7	14.3	4	6	78
Worcester, Mass.....	184,972	54	15.2	14.4	9	5	98
Yonkers, N. Y.....	103,324	22	11.1	10.6	1	3	21
Youngstown, Ohio.....	139,432	23	8.6	12.0	2	4	26

<sup>1</sup> Annual rate per 1,000 population.

<sup>2</sup> Deaths under 1 year per 1,000 births—based on deaths under 1 year for the week and estimated births for 1921. Cities left blank are not in the registration area for births.

<sup>3</sup> Enumerated population Jan. 1, 1920.

<sup>4</sup> Estimated population July 1, 1922.

# PREVALENCE OF DISEASE.

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.*

## UNITED STATES.

### CURRENT STATE SUMMARIES.

Telegraphic Reports for Week Ended April 8, 1922.

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

ALABAMA.		CONNECTICUT.	
	Cases.		Cases.
Chicken pox.....	39	Cerebrospinal meningitis.....	3
Diphtheria.....	7	Chicken pox.....	40
Hookworm disease.....	94	Conjunctivitis (infectious).....	2
Influenza:		Diphtheria.....	45
Barbour County.....	42	German measles.....	10
Bullock County.....	27	Influenza.....	41
Houston County.....	23	Lethargic encephalitis.....	1
Scattering.....	63	Measles:	
Malaria.....	4	Bridgeport.....	10
Pellagra.....	2	Hartford.....	60
Pneumonia.....	14	New Haven.....	45
Scarlet fever.....	5	West Hartford.....	17
Septic sore throat.....	4	Stamford.....	41
Smallpox.....	11	Scattering.....	30
Tuberculosis.....	15	Mumps.....	17
Typhoid fever.....	6	Pneumonia (lobar).....	28
		Scarlet fever:	
ARKANSAS.		Bridgeport.....	15
Chicken pox.....	13	New Haven.....	11
Diphtheria.....	8	Stamford.....	8
Influenza.....	300	Scattering.....	42
Malaria.....	11	Smallpox.....	15
Measles.....	11	Tuberculosis (all forms).....	31
Pellagra.....	7	Typhoid fever.....	2
Scarlet fever.....	3	Whooping cough.....	24
Smallpox.....	10		
Trachoma.....	1	DELAWARE.	
Tuberculosis.....	10	Cerebrospinal meningitis—Wilmington.....	1
Typhoid fever.....	3	Chicken pox.....	4
CALIFORNIA.		Diphtheria.....	1
Cerebrospinal meningitis:		Influenza.....	5
Los Angeles.....	1	Measles.....	2
San Francisco.....	1	Pneumonia.....	6
Diphtheria.....	117	Scarlet fever:	
Influenza.....	294	Wilmington.....	62
Measles.....	16	Scattering.....	12
Scarlet fever.....	109	Tuberculosis—Wilmington.....	9
Smallpox.....	41		
Typhoid fever.....	16	FLORIDA.	
		Diphtheria.....	10
		Influenza.....	31

## FLORIDA—continued.

	Cases.
Malaria.....	5
Pneumonia.....	2
Scarlet fever.....	2
Smallpox.....	16
Typhoid fever.....	8

## GEORGIA.

Chicken pox.....	10
Conjunctivitis (infectious).....	1
Dengue.....	1
Diphtheria.....	4
Dysentery (bacillary).....	1
German measles.....	1
Hookworm disease.....	7
Influenza.....	154
Malaria.....	8
Measles.....	3
Mumps.....	15
Paratyphoid fever.....	1
Pellagra.....	1
Pneumonia.....	29
Scarlet fever.....	6
Septic sore throat.....	4
Smallpox.....	25
Tetanus.....	1
Tuberculosis (pulmonary).....	9
Typhoid fever.....	6
Whooping cough.....	12

## ILLINOIS.

Cerebrospinal meningitis:	
Chicago.....	3
Peoria.....	1
St. Charles.....	1
Diphtheria:	
Chicago.....	119
Scattering.....	87
Influenza.....	123
Lethargic encephalitis—Chicago.....	1
Pneumonia.....	286
Poliomyelitis—Chicago.....	1
Scarlet fever:	
Chicago.....	103
Robinson.....	9
Scattering.....	92
Smallpox.....	25
Typhoid fever.....	6
Whooping cough.....	69

## INDIANA.

Diphtheria.....	48
Scarlet fever.....	75
Smallpox.....	22
Typhoid fever.....	14

## IOWA.

Diphtheria.....	15
Scarlet fever.....	44
Smallpox.....	15

## KANSAS.

Cerebrospinal meningitis.....	1
Chicken pox.....	66
Diphtheria.....	27
Influenza.....	124

## KANSAS—continued.

	Cases.
Lethargic encephalitis.....	1
Measles.....	4
Mumps.....	8
Pneumonia.....	37
Scarlet fever.....	63
Septic sore throat.....	1
Smallpox.....	28
Tetanus.....	2
Tuberculosis.....	61
Typhoid fever.....	6
Whooping cough.....	16

MARYLAND<sup>1</sup>

Cerebrospinal meningitis.....	1
Chicken pox.....	131
Diphtheria.....	38
German measles.....	4
Influenza.....	306
Lethargic encephalitis.....	2
Malaria.....	3
Measles.....	278
Mumps.....	112
Ophthalmia neonatorum.....	1
Paratyphoid fever.....	2
Pneumonia (all forms).....	154
Scarlet fever.....	63
Septic sore throat.....	1
Smallpox.....	1
Trachoma.....	2
Tuberculosis.....	68
Typhoid fever.....	9
Whooping cough.....	24

## MASSACHUSETTS.

Cerebrospinal meningitis.....	4
Chicken pox.....	92
Conjunctivitis (suppurative).....	13
Diphtheria.....	145
German measles.....	18
Influenza.....	38
Lethargic encephalitis.....	9
Measles.....	678
Mumps.....	103
Ophthalmia neonatorum.....	21
Pellagra.....	1
Pneumonia (lobar).....	142
Scarlet fever.....	174
Trachoma.....	2
Trichinosis.....	1
Tuberculosis (all forms).....	165
Typhoid fever.....	5
Whooping cough.....	57

## MINNESOTA.

Cerebrospinal meningitis.....	1
Chicken pox.....	6
Diphtheria.....	60
Influenza.....	8
Measles.....	60
Scarlet fever.....	104
Smallpox.....	63
Tuberculosis.....	79
Typhoid fever.....	9
Whooping cough.....	26

<sup>1</sup> Week ended Friday.

## MISSISSIPPI.

Cases.

Diphtheria.....	13
Scarlet fever.....	5
Smallpox.....	13
Typhoid fever.....	4

## MISSOURI.

Cerebrospinal meningitis.....	1
Chicken pox.....	35
Diphtheria.....	60
Epidemic sore throat.....	2
Influenza.....	169
Measles.....	9
Mumps.....	27
Pneumonia.....	28
Scarlet fever.....	46
Smallpox.....	12
Tetanus.....	1
Tuberculosis.....	46
Typhoid fever.....	1
Whooping cough.....	9

## MONTANA.

Diphtheria.....	11
Influenza.....	14
Scarlet fever.....	8
Smallpox.....	8

## NEBRASKA.

Cerebrospinal meningitis—Omaha.....	1
Chicken pox.....	13
Diphtheria:	
Omaha.....	14
Scattering.....	12
Influenza.....	97
Lethargic encephalitis—Omaha.....	1
Measles:	
Fremont.....	9
Lincoln.....	19
Omaha.....	39
Scattering.....	3
Mumps.....	96
Pneumonia.....	14
Scarlet fever.....	31
Smallpox:	
Scotts Bluff County.....	10
Scattering.....	9
Tetanus.....	1
Tuberculosis.....	14

## NEW JERSEY.

Cerebrospinal meningitis.....	3
Chicken pox.....	140
Diphtheria.....	99
Influenza.....	47
Malaria.....	2
Measles.....	1,049
Ophthalmia neonatorum.....	3
Pneumonia.....	199
Poliomyelitis.....	2
Scarlet fever.....	263
Trachoma.....	1
Typhoid fever.....	3
Whooping cough.....	97

## NEW MEXICO.

Chicken pox.....	5
Diphtheria.....	3

1 Deaths.

## NEW MEXICO—continued.

Cases.

Influenza.....	260
Mumps.....	8
Pneumonia.....	13
Scarlet fever.....	6
Smallpox.....	9
Trachoma.....	1
Tuberculosis.....	34
Typhoid fever.....	1
Whooping cough.....	3

## NEW YORK.

(Exclusive of New York City.)

Cerebrospinal meningitis.....	5
Diphtheria.....	161
Influenza.....	824
Lethargic encephalitis.....	3
Measles.....	542
Pneumonia.....	596
Poliomyelitis.....	1
Scarlet fever.....	339
Smallpox.....	5
Typhoid fever.....	23
Whooping cough.....	232

## NORTH CAROLINA.

Chicken pox.....	116
Diphtheria.....	39
Measles.....	40
Ophthalmia neonatorum.....	1
Scarlet fever.....	25
Septic sore throat.....	2
Smallpox.....	41
Typhoid fever.....	12
Whooping cough.....	186

## OREGON.

Chicken pox.....	8
Diphtheria:	
Portland.....	13
Scattering.....	4
Influenza.....	7
Lethargic encephalitis—Portland.....	2
Measles.....	6
Mumps.....	15
Pneumonia.....	18
Scarlet fever.....	8
Septic sore throat.....	59
Smallpox:	
Portland.....	19
Scattering.....	4
Tuberculosis.....	17
Typhoid fever.....	1
Whooping cough.....	11

## SOUTH DAKOTA.

Chicken pox.....	3
Diphtheria.....	14
Influenza.....	4
Pneumonia.....	17
Scarlet fever.....	31
Smallpox.....	22
Tuberculosis.....	4
Typhoid fever.....	1
Whooping cough.....	16

## TEXAS.

Chicken pox.....	106
Diphtheria.....	46

## TEXAS—continued.

	Cases.
Influenza.....	543
Measles.....	139
Pellagra.....	11
Pneumonia.....	89
Scarlet fever.....	23
Smallpox.....	77

## VERMONT.

Chicken pox.....	10
Diphtheria.....	2
Influenza.....	1
Measles.....	3
Mumps.....	8
Pneumonia.....	16
Scarlet fever.....	47
Typhoid fever.....	2
Whooping cough.....	13

## VIRGINIA.

Smallpox—Russell County.....	1
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## WASHINGTON.

Cerebrospinal meningitis—Spokane.....	1
Chicken pox.....	35
Diphtheria:	
Benton County—Prosser.....	16
Scattering.....	7
Influenza.....	1
Measles.....	3
Mumps.....	34
Pneumonia.....	1
Polioomyelitis—Tolt.....	1
Scarlet fever.....	17

## WASHINGTON—continued.

	Cases.
Smallpox:	
Tacoma.....	9
Scattering.....	26
Tuberculosis.....	18
Whooping cough.....	39

## WEST VIRGINIA.

Diphtheria.....	8
Influenza.....	46
Scarlet fever.....	13
Smallpox.....	3

## WISCONSIN.

Milwaukee:	
Chicken pox.....	41
Diphtheria.....	6
German measles.....	1
Influenza.....	4
Pneumonia.....	16
Scarlet fever.....	13
Smallpox.....	1
Tuberculosis.....	4
Typhoid fever.....	3
Whooping cough.....	49
Scattering:	
Cerebrospinal meningitis.....	2
Chicken pox.....	50
Diphtheria.....	61
German measles.....	7
Influenza.....	929
Measles.....	11
Pneumonia.....	28
Scarlet fever.....	90
Smallpox.....	33
Tuberculosis.....	25
Typhoid fever.....	3
Whooping cough.....	42

## Delayed Reports for Week Ended April 1, 1922.

## DISTRICT OF COLUMBIA.

Chicken pox.....	37
Diphtheria.....	15
Influenza.....	6
Measles.....	4
Scarlet fever.....	9
Smallpox.....	11
Tuberculosis.....	25
Typhoid fever.....	2
Whooping cough.....	6

## KENTUCKY.

Cerebrospinal meningitis—Henderson County.....	1
Chicken pox.....	18
Diphtheria.....	16
Influenza:	
Carter County.....	28
Crittenden County.....	53
Edmonson County.....	30
Lewis County.....	22
Monroe County.....	102
Scattering.....	123
Lethargic encephalitis—Graves County.....	1
Malaria.....	1
Measles:	
Franklin County.....	20
Jefferson County.....	30
Scattering.....	17

## KENTUCKY—continued.

Mumps.....	1
Pellagra.....	1
Pneumonia.....	65
Polioomyelitis—Crittenden County.....	1
Scarlet fever.....	17
Septic sore throat.....	4
Smallpox:	
Warren County.....	12
Scattering.....	11
Tuberculosis:	
Jefferson County.....	31
Scattering.....	16
Typhoid fever.....	8
Whooping cough.....	12

## MAINE.

Cerebrospinal meningitis.....	2
Chicken pox.....	12
Diphtheria.....	8
Influenza.....	158
Lethargic encephalitis.....	1
Pneumonia.....	1
Scarlet fever.....	39
Smallpox.....	2
Tuberculosis.....	9
Typhoid fever.....	6

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922.

## ANTHRAX.

City.	Cases.	Deaths.
California:		
Los Angeles.....		1
Delaware:		
Wilmington.....	1	
New Jersey:		
Hoboken.....	1	1
West Hoboken.....	1	

## CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for pre- vious years.	Week ended Mar. 25, 1922.		City.	Median for pre- vious years.	Week ended Mar. 25, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				New Jersey:			
Birmingham.....	0	1	1	Jersey City.....	0	1	
Georgia:				New York:			
Atlanta.....	0		1	Buffalo.....	0	2	1
Illinois:				Ithaca.....	0		1
Centralia.....	0	1		New York.....	6	9	9
Chicago.....	4	2	1	Ohio:			
Maryland:				Dayton.....	1	1	
Baltimore.....	0	1		Pennsylvania:			
Massachusetts:				Philadelphia.....	1	1	2
Lowell.....	0	1		South Carolina:			
Melrose.....	0		1	Columbia.....	0	1	
New Bedford.....	0		1	Texas:			
Michigan:				Houston.....	1		
Hamtramck.....	0	1	1	West Virginia:			
Port Huron.....	0		2	Charleston.....	0		1
Missouri:							
Joplin.....	0	1					
Kansas City.....	0	1	1				

## DIPHTHERIA.

See p. 905; also Telegraphic weekly reports from States, p. 894.

## INFLUENZA.

City.	Cases.		Deaths, week ended Mar. 25, 1922.	City.	Cases.		Deaths, week ended Mar. 25, 1922.
	Week ended Mar. 26, 1921.	Week ended Mar. 25, 1922.			Week ended Mar. 26, 1921.	Week ended Mar. 25, 1922.	
Alabama:				California—Continued.			
Anniston.....			1	Riverside.....		5	
Birmingham.....		1	5	Sacramento.....	2	3	2
Montgomery.....		1	1	San Diego.....		6	4
Arizona:				San Francisco.....	14	13	2
Tucson.....			1	Santa Ana.....		7	
Arkansas:				Santa Barbara.....			1
Little Rock.....		5		Stockton.....		27	
California:				Colorado:			
Alameda.....		3		Denver.....			8
Berkeley.....		5		Connecticut:			
Long Beach.....	1	12		Bridgeport.....		5	7
Los Angeles.....	5	206	24	Bristol.....		1	
Oakland.....	3	21	1	Derby.....			1
Pasadena.....		13		Hartford.....		1	1

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## INFLUENZA—Continued.

City.	Cases.		Deaths, week ended Mar. 25, 1922.	City.	Cases.		Deaths, week ended Mar. 25, 1922.
	Week ended Mar. 26, 1921.	Week ended Mar. 25, 1922.			Week ended Mar. 26, 1921.	Week ended Mar. 25, 1922.	
Connecticut—Continued.				Michigan:			
Meriden.....		1	.....	Detroit.....	3	29	10
New Britain.....	1		.....	Grand Rapids.....		10	.....
New Haven.....			2	Ishpeming.....		2	.....
Stonington.....		27	1	Kalamazoo.....			1
District of Columbia:				Marquette.....		34	.....
Washington.....		4	1	Pontiac.....		1	.....
Florida:				Minnesota:			
Tampa.....		5	1	Duluth.....		1	1
Georgia:				Hibbing.....	2		.....
Atlanta.....	1	115	4	Minneapolis.....	6		3
Brunswick.....		1	.....	St. Paul.....	2		8
Rome.....		66	.....	Missouri:			
Savannah.....			1	Kansas City.....	1	11	7
Idaho:				St. Joseph.....			3
Pocatello.....			2	St. Louis.....	1	27	5
Illinois:				Montana:			
Aurora.....		1	.....	Anaconda.....			1
Chicago.....	17	93	17	Billings.....			2
Cicero.....		2	.....	Missoula.....		20	.....
Decatur.....		3	.....	Nevada:			
Galesburg.....			1	Reno.....		5	.....
Peoria.....			1	New Jersey:			
Quincy.....		10	.....	Atlantic City.....		1	1
Rock Island.....		2	3	Bayonne.....	1		.....
Indiana:				Clifton.....		1	.....
Fort Wayne.....			2	Kearny.....	14	2	.....
Gary.....			1	Newark.....	23		.....
Hammond.....			1	Orange.....	1		.....
Indianapolis.....			2	Passaic.....			1
Kokomo.....			1	Summit.....		5	.....
Mishawaka.....			1	Trenton.....	1	3	1
Kansas:				New Mexico:			
Atchison.....	2		.....	Albuquerque.....		3	1
Coffeyville.....	4		.....	New York:			
Fort Scott.....			1	Albany.....	3	37	.....
Kansas City.....	1		.....	Binghamton.....	3	57	3
Kentucky:				Buffalo.....	1	14	4
Covington.....			1	Cohoes.....	3	6	.....
Lexington.....			2	Cortland.....		5	.....
Louisville.....		7	.....	Elmira.....		1	1
Louisiana:				Jamestown.....		1	.....
Baton Rouge.....	1		.....	Mount Vernon.....	2	3	.....
New Orleans.....		13	11	New York.....	165	120	23
Maine:				North Tonawanda.....		2	.....
Biddeford.....		3	.....	Olean.....			2
Portland.....	1		.....	Peekskill.....		5	.....
Sanford.....		25	.....	Poughkeepsie.....		4	.....
Maryland:				Rome.....			2
Baltimore.....	48	94	5	Saratoga Springs.....	3	143	.....
Cumberland.....	2	8	.....	Schenectady.....			.....
Massachusetts:				Syracuse.....	1	26	.....
Belmont.....		2	.....	Watertown.....		4	.....
Boston.....	3	31	2	Yonkers.....		1	.....
Braintree.....		5	.....	North Carolina:			
Cambridge.....	3	8	.....	Wilmington.....		36	.....
Chicopee.....		2	.....	Winston-Salem.....			1
Everett.....		13	.....	North Dakota:			
Fall River.....		6	3	Minot.....	1		.....
Greenfield.....		7	.....	Ohio:			
Haverhill.....	5	4	.....	Akron.....		2	.....
Lynn.....	1	1	.....	Ashtabula.....			1
New Bedford.....		1	1	Cincinnati.....	1	4	8
Pittsfield.....		8	.....	Cleveland.....		39	6
Quincy.....		3	.....	Cleveland Heights.....		1	.....
Salem.....			1	Columbus.....		30	4
Saugus.....	2	2	.....	Findlay.....			2
Somerville.....	1	1	.....	Ironton.....		4	.....
Springfield.....		3	1	Springfield.....		1	2
Taunton.....			1	Toledo.....			6
Winthrop.....	1		.....	Youngstown.....		2	2
Worcester.....	6		.....				

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## INFLUENZA—Continued.

City.	Cases.		Deaths, week ended Mar. 25, 1922.	City.	Cases.		Deaths, week ended Mar. 25, 1922.
	Week ended Mar. 26, 1921.	Week ended Mar. 25, 1922.			Week ended Mar. 26, 1921.	Week ended Mar. 25, 1922.	
Oklahoma:				Virginia:			
Oklahoma.....			1	Alexandria.....			1
Pennsylvania:				Norfolk.....		3	
Philadelphia.....	5	17	15	Petersburg.....		16	
Rhode Island:				Richmond.....	2		5
Providence.....		2	1	Roanoke.....	3	1	1
South Carolina:				Washington:			
Charleston.....			1	Seattle.....	1		
Greenville.....		15		Walla Walla.....		2	
Tennessee:				West Virginia:			
Memphis.....			3	Charleston.....		16	
Nashville.....			5	Fairmont.....		30	
Texas:				Huntington.....		2	1
Beaumont.....		8	1	Wheeling.....			2
Dallas.....		9	7	Wisconsin:			
El Paso.....			16	Kenosha.....		1	
Houston.....		40	4	Manitowoc.....		3	
Waco.....			1	Wyoming:			
Utah:				Casper.....	8		
Salt Lake City.....			1				

## LEPROSY.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
California:					
Los Angeles.....	1				

## LETHARGIC ENCEPHALITIS.

California:			Ohio:		
Sacramento.....	1	1	Akron.....	2	
Massachusetts:			Wisconsin:		
Waltham.....	1		Milwaukee.....	1	

## MALARIA.

Alabama:			Georgia:		
Tuscaloosa.....	3		Brunswick.....	6	
California:			Savannah.....	1	
San Francisco.....		1	Valdosta.....		1
Florida:			New York:		
Tampa.....	3		New York.....	7	1
			Tennessee:		
			Memphis.....	1	

## MEASLES.

See p. 905; also Telegraphic weekly reports from States, p. 894.

## PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Georgia:		
Birmingham.....	1		Atlanta.....		2
Montgomery.....		1	Rome.....	1	
Arkansas:			North Carolina:		
Little Rock.....	1		Winston-Salem.....	1	1
			Texas:		
			Waco.....		1



## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## PNEUMONIA (ALL FORMS).

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Iowa:		
Birmingham.....		5	Burlington.....	4	3
Mobile.....		3	Council Bluffs.....		4
Montgomery.....		2	Davenport.....		1
Arizona:			Kansas:		
Tucson.....		9	Fort Scott.....		1
Arkansas:			Hutchinson.....		1
Little Rock.....	2		Kansas City.....	8	2
California:			Pittsburg.....	5	2
Alameda.....		3	Topeka.....	5	3
Berkeley.....	2		Wichita.....	8	2
Long Beach.....		4	Kentucky:		
Los Angeles.....	77	19	Covington.....	2	1
Oakland.....	7	5	Lexington.....		5
Pasadena.....	3	1	Louisville.....	53	11
Riverside.....		2	Louisiana:		
Sacramento.....		6	New Orleans.....	27	22
San Bernardino.....		1	Maine:		
San Diego.....	4	3	Auburn.....		1
San Francisco.....	11	7	Bangor.....	3	
Santa Ana.....		2	Biddeford.....		1
Stockton.....		5	Lewiston.....	5	1
Colorado:			Portland.....		5
Denver.....		18	Sanford.....		3
Trinidad.....	1		Maryland:		
Connecticut:			Baltimore.....	90	33
Bridgeport.....	11	6	Cumberland.....	10	3
Bristol.....	1		Massachusetts:		
Hartford.....	6	3	Arlington.....	2	
Meriden.....	2		Attleboro.....		1
New Haven.....		13	Belmont.....		1
New London.....		2	Boston.....	34	40
Norwalk.....		3	Brockton.....	4	3
Stonington.....		1	Brookline.....	2	
Delaware:			Cambridge.....		5
Wilmington.....		7	Chelsea.....		4
District of Columbia:			Chicopee.....		1
Washington.....		23	Easthampton.....	5	
Florida:			Fall River.....		15
Tampa.....		2	Framingham.....		3
Georgia:			Gardner.....	1	
Atlanta.....		29	Greenfield.....	1	
Rome.....	5		Haverhill.....	1	
Savannah.....		3	Holyoke.....		4
Illinois:			Lawrence.....	3	
Alton.....		1	Lowell.....	4	1
Aurora.....	6	3	Lynn.....	8	
Bloomington.....		3	Malden.....		4
Chicago.....	257	75	Medford.....		4
Cicero.....		4	Melrose.....	1	
Danville.....	5	2	New Bedford.....		19
Decatur.....		6	Newton.....	4	
East St. Louis.....		4	North Adams.....		3
Elgin.....	3	1	Northampton.....		3
Evanston.....	2		Pittsfield.....		2
Galesburg.....	2		Plymouth.....		1
Jacksonville.....		3	Quincy.....		1
Kewanee.....		1	Salem.....	1	
La Salle.....	3	1	Somerville.....	8	3
Mattoon.....	3	1	Southbridge.....		2
Oak Park.....		5	Springfield.....	3	2
Pekin.....	1		Taunton.....	1	
Peoria.....		6	Waltham.....	4	
Quincy.....	2		Wate town.....		1
Rock Island.....	3		Webster.....	1	
Rockford.....		5	Worcester.....		4
Springfield.....		2	Michigan:		
Indiana:			Ann Arbor.....	7	2
East Chicago.....		6	Benton Harbor.....	1	
Fort Wayne.....		5	Detroit.....	143	60
Gary.....		1	Flint.....	5	4
Indianapolis.....		8	Grand Rapids.....	10	5
Kokomo.....		2	Hamtramck.....	3	1
La Fayette.....		1	Ironwood.....		1
Mishawaka.....		1	Isipeming.....	1	
South Bend.....		2	Jac son.....	2	
Terre Haute.....		3	Kalamazoo.....	4	

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Michigan—Continued.			New York—Continued.		
Marquette.....		3	Troy.....	10	4
Muskegon.....	1		Watertown.....		4
Pontiac.....		3	White Plains.....	2	
Port Huron.....	4	1	Yonkers.....	11	4
Minnesota:			North Carolina:		
Duluth.....		7	Raleigh.....		2
Faribault.....		3	Rocky Mount.....		1
Hibbing.....	1		Salisbury.....		2
Minneapolis.....		8	Wilmington.....		5
St. Paul.....		9	Winston-Salem.....		7
Missouri:			Ohio:		
Kansas City.....	32	15	Akron.....	14	
St. Joseph.....		2	Ashtabula.....		1
Springfield.....		2	Barberton.....	4	1
Montana:			Cambridge.....	3	2
Anaconda.....		5	Canton.....		2
Billings.....		4	Cincinnati.....		18
Great Falls.....		1	Cleveland.....	67	38
Missoula.....	2	1	Cleveland Heights.....	1	
Nebraska:			Columbus.....		6
Lincoln.....		2	Dayton.....	2	
Omaha.....		10	East Youngstown.....		1
Nevada:			Findlay.....		2
Reno.....	3		Hamilton.....		2
New Hampshire:			Ironton.....	6	1
Nashua.....		1	Kenmore.....	1	
New Jersey:			Mansfield.....	4	1
Atlantic City.....		2	Middletown.....	2	1
Bayonne.....	1		Piqua.....		2
Belleville.....	2		Springfield.....		4
Bloomfield.....	2		Tiffin.....	1	
Elizabeth.....		5	Toledo.....		13
Harrison.....	3		Youngstown.....		17
Hoboken.....		8	Zanesville.....		1
Jersey City.....	11		Oklahoma:		
Kearny.....		2	Oklahoma.....		4
Montclair.....	2		Oregon:		
Morristown.....	1		Portland.....		11
Orange.....	10		Pennsylvania:		
Passaic.....		2	Philadelphia.....	132	78
Paterson.....	12		Rhode Island:		
Perth Amboy.....		1	Cranston.....		1
Phillipsburg.....	1		Newport.....		1
Plainfield.....	4	1	Pawtucket.....		4
Summit.....	1		Providence.....		12
Trenton.....		7	South Carolina:		
West Hoboken.....		2	Charleston.....		2
West New York.....		3	Greenville.....	1	
West Orange.....	3		Tennessee:		
New Mexico:			Memphis.....		8
Albuquerque.....		3	Nashville.....		10
New York:			Texas:		
Albany.....	19		Austin.....		1
Auburn.....		2	Beaumont.....		1
Binghamton.....	24	7	Dallas.....	11	7
Buffalo.....	87	26	El Paso.....		24
Cohoes.....	5		Fort Worth.....		2
Cortland.....		2	Galveston.....		4
Elmira.....		3	Houston.....		10
Glens Falls.....	3	1	Waco.....		1
Hudson.....	1		Utah:		
Ithaca.....		3	Salt Lake City.....		8
Lackawanna.....	4	2	Vermont:		
Lockport.....	4	1	Burlington.....		5
Mount Vernon.....	6		Virginia:		
Newburgh.....		1	Alexandria.....		1
New York.....	533	259	Danville.....		1
Niagara Falls.....	3	2	Lynchburg.....		2
North Tonawanda.....	6	3	Norfolk.....		7
Ogdensburg.....		1	Petersburg.....		2
Peekskill.....	5	1	Portsmouth.....		1
Plattsburg.....		1	Richmond.....		7
Port Chester.....	2	1	Roanoke.....		2
Poughkeepsie.....	5	3	West Virginia:		
Rochester.....	27	25	Charleston.....		4
Rome.....	3	1	Clarksburg.....		1
Saratoga Springs.....	7	2	Huntington.....		4
Schenectady.....	9	2	Wheeling.....		6
Syracuse.....	13	5			

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Wisconsin:			Wisconsin—Continued.		
Beloit.....		1	Racine.....		4
Fond du Lac.....		3	Superior.....		1
Kenosha.....	5	4	Wyoming:		
Milwaukee.....	10		Casper.....	12	2
Oshkosh.....		1	Cheyenne.....		1

## POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for pre- vious years.	Week ended Mar. 25, 1922.		City.	Median for pre- vious years.	Week ended Mar. 25, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Minnesota:			
Birmingham.....	0	1		St. Paul.....	0	1	
Massachusetts:				New Jersey:			
New Bedford.....	0	2		Trenton.....	0		1
Peabody.....	0	1		New York.....	0	2	
Michigan:				Ohio:			
Detroit.....	0		1	Cambridge.....		1	1
Port Huron.....	0	1		Hamilton.....	0		1

## RABIES IN ANIMALS.

City.	Cases.
Georgia:	
Savannah.....	3
Kentucky:	
Louisville.....	1
Missouri:	
Kansas City.....	1

## SCARLET FEVER.

See p. 905; also Telegraphic weekly reports from States, p. 894.

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Mar. 25, 1922.		City.	Median for previous years.	Week ended Mar. 25, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Montana:			
Birmingham.....	3	1		Great Falls.....	0	8	
Mobile.....	2	6	1	Nevada:			
California:				Reno.....	0	3	
Alameda.....	0	2		North Carolina:			
Los Angeles.....	1	1		Winston-Salem.....	6	3	
San Francisco.....	7	2		North Dakota:			
Santa Cruz.....	0	1		Grand Forks.....	5	1	
Colorado:				Ohio:			
Denver.....	14	11	3	Akron.....	5	2	
Connecticut:				Cincinnati.....	1	13	
Bridgeport.....	0	15	1	Columbus.....	1	1	
Fairfield.....		6		Dayton.....	0	4	
Milford.....		1		Fremont.....	0	1	
District of Columbia:				Kenmore.....	1	1	
Washington.....	1	2		Mansfield.....	0	1	
Georgia:				New Philadelphia.....	0	1	
Atlanta.....	8	3		Springfield.....	0	11	
Macon.....	1	2		Oklahoma:			
Savannah.....	1	2		Oklahoma.....	6	6	
Valdosta.....	1	1		Oregon:			
Illinois:				Portland.....	4	17	
Chicago.....	2	4		South Carolina:			
Pekin.....	0	4		Columbia.....	0	1	
Peoria.....	3	12		Greenville.....	0	1	
Indiana:				Tennessee:			
Bloomington.....	2	2		Memphis.....	3	2	
Indianapolis.....	8	1		Nashville.....	1	1	1
Iowa:				Texas:			
Burlington.....	0	3		Dallas.....	6	5	
Cedar Rapids.....	4	2		El Paso.....	1	2	
Council Bluffs.....	3	1		Utah:			
Des Moines.....	4	1		Salt Lake City.....	19	3	
Muscatine.....	0	3		Virginia:			
Kansas:				Danville.....	0	1	
Hutchinson.....	0	5		Washington:			
Kansas City.....	4	2		Bellingham.....	0	4	
Lawrence.....	0	1		Everett.....	0	7	
Leavenworth.....	0	1		Seattle.....	11	1	
Topeka.....	4	3		Spokane.....	19	11	
Wichita.....	9	2	1	Tacoma.....	1	9	
Kentucky:				Walla Walla.....	1	1	
Louisville.....	2	1		Yakima.....	10	1	
Michigan:				West Virginia:			
Ann Arbor.....	0	3		Bluefield.....	5	1	
Detroit.....	14	3		Wisconsin:			
Muskegon.....	4	9		Manitowoc.....	0	1	
Minnesota:				Milwaukee.....	6	1	
Mankato.....	0	1		Racine.....	1	2	
Minneapolis.....	28	5		Superior.....	2	13	
St. Paul.....	5	23		Wausau.....	0	1	
Missouri:							
Independence.....	2	1					
Kansas City.....	23	6	4				

## TETANUS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Georgia:			Texas:		
Savannah.....	1	1	Dallas.....		1
Kentucky:			Virginia:		
Louisville.....		1	Portsmouth.....		1
Louisiana:			Richmond.....		1
New Orleans.....		2			
Minnesota:					
St. Paul.....		1			

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## TUBERCULOSIS.

See p. 905; also Telegraphic weekly reports from States, p. 894.

## TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Mar. 25, 1922.		City.	Median for previous years.	Week ended Mar. 25, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Missouri:			
Birmingham.....	1	2	.....	St. Joseph.....	0	1	.....
California:				St. Louis.....	2	1	.....
Los Angeles.....	3	4	1	Springfield.....	0	.....	1
Oakland.....	0	1	.....	New Jersey:			
San Francisco.....	1	2	.....	Trenton.....	0	1	.....
Connecticut:				New York:			
New Haven.....	0	1	.....	New York.....	5	8	.....
Florida:				Niagara Falls.....	0	1	.....
Tampa.....	3	4	.....	Ohio:			
Georgia:				Canton.....	0	1	.....
Atlanta.....	1	1	1	Cleveland.....	2	1	.....
Brunswick.....	0	1	.....	Martins Ferry.....	0	1	.....
Illinois:				Oklahoma:			
Chicago.....	6	4	3	Tulsa.....	1	1	.....
Indiana:				Oregon:			
Hammond.....	0	1	.....	Portland.....	0	1	.....
Iowa:				Pennsylvania:			
Mason City.....	0	1	.....	New Castle.....	0	1	.....
Kansas:				Philadelphia.....	4	2	.....
Kansas City.....	0	1	.....	Pittsburgh.....	2	1	.....
Kentucky:				South Carolina:			
Louisville.....	0	1	.....	Columbia.....	0	2	.....
Louisiana:				Texas:			
New Orleans.....	2	1	.....	Austin.....	0	.....	1
Maryland:				Dallas.....	0	1	.....
Baltimore.....	5	4	.....	Galveston.....	0	3	.....
Massachusetts:				Virginia:			
Brockton.....	0	1	.....	Portsmouth.....	0	1	.....
Brookline.....	0	1	.....	Washington:			
Fall River.....	1	1	.....	Everett.....	0	1	.....
Gardner.....	0	.....	1	Wisconsin:			
Haverhill.....	0	1	.....	Eau Claire.....	0	1	.....
Lowell.....	1	1	1	Marinette.....	0	1	.....
Michigan:				Superior.....	0	1	.....
Detroit.....	3	3	1				
Minnesota:							
St. Paul.....	0	1	.....				

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Birmingham.....	178,270	55	3	.....	2	.....	.....	.....	7	10
Mobile.....	60,151	17	2	.....	1	.....	.....	.....	.....	2
Montgomery.....	43,464	18	.....	.....	.....	.....	.....	.....	6	1
Tuscaloosa.....	11,996	.....	.....	.....	.....	.....	1	.....	.....	.....
Arizona:										
Tucson.....	20,292	33	.....	.....	.....	.....	.....	.....	.....	12
Arkansas:										
Hot Springs.....	11,695	6	.....	.....	1	.....	.....	.....	1	1
North Little Rock.....	14,048	.....	.....	.....	.....	.....	.....	.....	1	.....
California:										
Alameda.....	28,806	7	.....	.....	1	.....	12	.....	1	.....
Berkeley.....	55,886	7	.....	1	.....	.....	11	.....	.....	.....

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
California—Continued.										
Long Beach.....	55,593	20	2				1		1	
Los Angeles.....	576,673	217	54	2	5		27		83	23
Oakland.....	216,361	68	22		1		4		7	7
Pasadena.....	45,354	15					1	1	3	1
Richmond.....	16,843	0	1							
Riverside.....	19,341	6							1	
Sacramento.....	65,857	25	5				4		5	1
San Bernardino.....	18,721	18					1			8
San Diego.....	74,683	30	7	1			10		7	5
San Francisco.....	508,410	177	27	2	9		13	1	42	19
Santa Ana.....	15,485	8					1			1
Santa Barbara.....	19,441	5							1	
Santa Cruz.....	10,917	4							1	1
Stockton.....	40,296	15	1				2		1	2
Colorado:										
Denver.....	256,369	135	17				7			23
Connecticut:										
Bridgeport.....	143,538	39	16		1		12			1
Bristol.....	20,620	2					2		1	
Fairfield (town).....	11,475	4								
Hartford.....	138,036		7		44		4		5	2
Manchester (town).....	18,370	4					1			
Meriden (city).....	29,842		4						4	
Milford (town).....	10,193	4			1					1
New Haven.....	162,519	44	2	1	21	1	9		18	2
New London.....	25,688	4	3		7				4	
Norwalk.....	27,700	17								1
Stamford (city).....	35,086				58		5		1	
Stonington (town).....	10,236	4	3				1			
Delaware:										
Wilmington.....	110,168	32	3				51			2
District of Columbia:										
Washington.....	437,571	139	15	2	9		11		26	13
Florida:										
Tampa.....	51,252	25	4		7				6	3
Georgia:										
Atlanta.....	200,616	90					6		4	4
Brunswick.....	14,413	2							1	
Macon.....	52,995		1		6		2			
Rome.....	13,262				1		1			
Savannah.....	83,252	26	2							
Valdosta.....	10,783	1							1	
Idaho:										
Boise.....	21,393	5			2		2			
Pocatello.....	15,001	3								
Illinois:										
Alton.....	24,682	4	2		1					
Aurora.....	36,397	13	3		20		2		1	1
Bloomington.....	28,725	13					1		1	
Centralia.....	12,491	5	1				1			
Champaign.....	15,873						2			
Chicago.....	2,701,705	704	125	13	402	5	106	2	81	52
Chicago Heights.....	19,653	4								
Cicero.....	44,995	16	5				5			2
Danville.....	33,750	11	2		1		2		2	
Decatur.....	43,818	19	1				1		1	
East St. Louis.....	66,740	17							5	3
Elgin.....	27,454	8								1
Evanston.....	37,215	10			6		2			
Forest Park.....	10,768				4					
Freeport.....	19,669	6	2				1			
Galesburg.....	23,834	11	1							
Jacksonville.....	15,713	16	1		1		5		4	1
Kewanee.....	16,026	7	1		1		1			
La Salle.....	13,050	4							1	1
Mattoon.....	13,552	6	1		1		2		1	1
Oak Park.....	39,830	19	2		11		2		1	1
Pekin.....	12,086						3		1	
Peoria.....	76,121	23	2		4		3			1
Quincy.....	35,978	12	1	1			3		2	3
Rockford.....	65,651	18			4		7			
Rock Island.....	35,177	7	1				1		1	2
Springfield.....	59,183	11					1			1

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
<b>Indiana:</b>										
Anderson.....	29,767	3	1				3			
Bloomington.....	11,595	2	1				1			
Clinton.....	10,962	5								
Crawfordsville.....	10,139	5								
East Chicago.....	35,967	13	2					2		
Fort Wayne.....	36,549	25	4		10		13			1
Frankfort.....	11,585	2					2			
Gary.....	55,378	11	1							
Hammond.....	36,004	9	1		2		1			1
Huntington.....	14,000	2					1			
Indianapolis.....	314,194	89	14		26		1		8	8
Kokomo.....	30,967	12					1		1	
La Fayette.....	22,436	9								
Logansport.....	21,626	3	1						1	
Mishawaka.....	15,195	8	1						1	
Muncie.....	38,624	10								1
South Bend.....	70,983	7							7	
Terre Haute.....	66,083	24	2		1		6			2
<b>Iowa:</b>										
Burlington.....	24,057	8					1			
Clinton.....	24,151	0	1							
Council Bluffs.....	36,162	8	1		12					
Davenport.....	56,727						3			
Des Moines.....	128,468		2				15	1		
Dubuque.....	39,141		1	1			1			
Iowa City.....	11,267						1			
Marshalltown.....	15,731						1			
Mason City.....	20,065	7	1	1			3			
Muscatine.....	16,068	15								1
Sioux City.....	71,227		6				1			
<b>Kansas:</b>										
Atchison.....	12,630						3			
Coffeyville.....	13,452	1	1							
Fort Scott.....	10,693	2								
Hutchinson.....	23,298		1							
Kansas City.....	101,177		2				3		7	
Lawrence.....	12,456	2					1			
Leavenworth.....	16,912		2		2	1	1			
Parsons.....	16,028	4							4	
Pittsburg.....	18,052	9	2						4	
Salina.....	15,085	3					1			
Topeka.....	50,022	10	1	1			1			
Wichita.....	72,128	33	2				7		3	
<b>Kentucky:</b>										
Covington.....	57,121	15	1		9					2
Lexington.....	41,534	24			20					2
Louisville.....	234,891	78	7	2	23		2		37	11
Owensboro.....	17,424		2						1	
Paducah.....	24,735		1				7			
<b>Louisiana:</b>										
New Orleans.....	387,219	137	7				6		22	13
<b>Maine:</b>										
Auburn.....	16,985	6					6			
Bath.....	14,731	1								
Biddeford.....	18,008	8	1							1
Lewiston.....	31,791	12	2		1				1	
Portland.....	66,272	19	3				14			
Sanford.....	10,691	5							4	
<b>Maryland:</b>										
Baltimore.....	733,826	267	29	4	165	2	33		31	22
Cumberland.....	29,837	15	1		2				1	
<b>Massachusetts:</b>										
Adams.....	12,967	2	1							1
Amesbury.....	10,036	3							1	
Arlington.....	18,665	8			2					
Attleboro.....	19,731	4			1					1
Belmont.....	10,749	2	1						1	
Beverly.....	22,561	3			1					
Boston.....	748,060	267	78	1	140		57	1	42	19
Braintree.....	10,580	10							1	5
Brockton.....	66,138	14	4		20		12		4	2

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Massachusetts—Continued.										
Brookline.....	37,748	15			4		2		1	2
Cambridge.....	109,694	39			55		7		3	4
Chelsea.....	43,184	16	2		2		1			
Chicopee.....	36,214	7	2	1	8				2	
Clinton.....	12,979	2							2	
Dedham.....	10,792	1								
Easthampton.....	11,361	1								
Everett.....	40,129	14	1		8		3		3	1
Fall River.....	120,485	45	3	1	3		13		7	3
Frammingham.....	17,683	7								
Gardner.....	16,971	6	1				1		1	1
Greenfield.....	15,462	3	1		6				2	
Haverhill.....	53,884	14	5		1		1		1	1
Holyoke.....	68,303	22	5	1	13		1		2	2
Lawrence.....	94,279	28	1	2	36				3	3
Leominster.....	19,744	4	2	2			1	1		
Lowell.....	112,479	32	2		4	1			8	3
Lynn.....	99,148	25	3		1		3		4	2
Malden.....	49,103	14	4	1			3			
Melford.....	39,038	10			8					
Melroe.....	18,394	4					2			
Methuen.....	15,189	6			15		1			
New Bedford.....	121,217	40	6		2		6		8	5
Newburyport.....	15,618	1								
Newton.....	46,054	11	2		3		4		2	
North Adams.....	22,282	7				1			1	
Northampton.....	21,951	18			3					
Peabody.....	19,552	4	1		39				2	
Pittsfield.....	41,751	9	1		1		2		2	
Plymouth.....	13,945	6								
Quincy.....	47,876	8	2		11		8		3	
Salem.....	42,529	13	3		6		1			
Saugus.....	10,874	2					1		3	
Somerville.....	93,991	23	1		40		6		1	
Southbridge.....	14,245	6							1	
Springfield.....	129,563	37	4	1	21		2		2	
Taunton.....	37,137	20					2			
Wakefield.....	13,025	4	2				1			
Waltham.....	30,915	12			20					
Watertown.....	21,457	4							1	
Webster.....	13,268	0			2					
Westfield.....	18,604	1			27					
Weymouth.....	15,057	6								
Winthrop.....	15,455	4			2		2			
Woburn.....	16,574	4								1
Worcester.....	179,754	43	5		5		7		6	3
Michigan:										
Ann Arbor.....	19,516	13								
Benton Harbor.....	12,233	5	2				1			
Detroit.....	993,739	285	46	5	347	12	50	2	68	19
Flint.....	91,599	14	9				5			1
Grand Rapids.....	137,624	33	4				11		6	
Hamtramck.....	48,615	3	3	1	4				3	
Holland.....	12,166	0								
Ironwood.....	15,739	4	3				1			
Ishpeming.....	10,500	0							2	
Jackson.....	48,374	11	2						2	
Kalamazoo.....	48,858	21	5				15		1	
Marquette.....	12,718	10					1		1	
Muskegon.....	36,570	10	1	1						2
Pontiac.....	34,273	16	3		24		6			1
Port Huron.....	25,844	11			4		1			
Sault Ste. Marie.....	12,096	4					3		1	
Minnesota:										
Duluth.....	98,917	28	1				5		2	2
Faribault.....	11,089	11								
Mankato.....	12,469						9		2	
Minneapolis.....	380,562	89	16		22	1	40	2	42	2
Rochester.....	13,722	19								
St. Cloud.....	15,873						2			
St. Paul.....	234,595	73	16		6		37	2	7	8



## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Missouri:										
Independence.....	11,686	3	2							
Kansas City.....	324,410	99	6		1		9		5	8
St. Joseph.....	77,939	31					1			
St. Louis.....	772,897	247	20		3		21		46	13
Springfield.....	39,631	19								
Montana:										
Anaconda.....	11,668	8								
Billings.....	15,100	10	1		1		1			
Great Falls.....	24,121	5	3						1	
Missoula.....	12,668	7					1			
Nebraska:										
Lincoln.....	54,934	14	4	1	34		2			
Omaha.....	191,601	77	2		39		2			4
Nevada:										
Reno.....	12,016	3								
New Hampshire:										
Berlin.....	16,104	3	1							
Dover.....	13,029	7			12					1
Keene.....	11,210	1					3			
Nashua.....	28,379	7							5	
New Jersey:										
Asbury Park.....	12,400	2					2			1
Atlantic City.....	50,682	27	1				4		5	
Bayonne.....	76,754		1		3				5	
Bloomfield.....	22,019	1			54				2	
Clifton.....	26,470	3			7		3			2
Elizabeth.....	95,682		10		1		13		9	2
Englewood.....	11,627	0					2			
Garfield.....	19,381	3	1		1		2			
Hackensack.....	17,667	12					2			1
Harrison.....	15,721		2		8		4		1	
Hoboken.....	68,166	23	4		19		1			3
Jersey City.....	297,864		27		98		30		10	
Kearny.....	26,724	10	2		1		2		2	
Montclair.....	28,810	2	1		2		2			
Morristown.....	12,548	6					2			
Orange.....	33,268	7	2		1					
Passaic.....	63,624	22	4		1		5		1	2
Paterson.....	135,866		10		68		11			
Perth Amboy.....	41,707	12	2		6		3			
Phillipsburg.....	15,923	7								
Plainfield.....	27,700	6	2		4		2		4	4
Rahway.....	11,042	2					1			
Summit.....	10,174	1							2	
Trenton.....	119,289	45	4		29		13	1	9	5
Union.....	20,651		1		16		6			
West Hoboken.....	40,068	5	5	1	8		3			
West New York.....	29,926	3			11		7		1	
West Orange.....	15,573	3	1		1		4		1	
New Mexico:										
Albuquerque.....	15,157	15					10		6	7
New York:										
Albany.....	113,344		5		1		1		7	
Auburn.....	36,132	13	4							1
Binghamton.....	66,800	23	1				4			
Buffalo.....	509,775	193	15		4		40	2	21	10
Cohoes.....	22,987	3					1			
Cortland.....	13,294	10					1			1
Elmira.....	45,305	13			132		4			
Geneva.....	14,648	3								
Glens Falls.....	16,638	9								
Hornell.....	15,025	1			3					
Hudson.....	11,745	8			1				1	
Ithaca.....	17,004	13			1				4	
Lackawanna.....	17,913	5					11		2	1
Lockport.....	21,308	5					1		1	
Middletown.....	18,420						2		2	
Mount Vernon.....	42,726	7	1		10		2		1	
Newburgh.....	30,386	16			1				1	1

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New York—Continued.										
New York.....	5,621,451	1,580	272	38	2,019	46	434	9	1,205	114
Niagara Falls.....	50,760	18	2		2		20	1	2	
North Tonawanda.....	15,482	6	2				3			1
Ogdensburg.....	14,669	14		1						
Oneida.....	20,506	8	1							
Peekskill.....	15,868	4	2		20				2	
Plattsburg.....	10,000	4								
Port Chester.....	16,573	4								
Poughkeepsie.....	85,000	17			48					
Rochester.....	295,750	91	10	1	10		3	1	11	1
Rome.....	26,341	10			9		3			
Saratoga Springs.....	13,181	8	1	1	1					
Schenectady.....	88,723	18	1	1	1		4		1	2
Syracuse.....	171,717	46	12		1		17		12	
Troy.....	72,013	31	3						2	1
Watertown.....	31,285	12					2		1	
White Plains.....	21,024	1			19		1			
Yonkers.....	100,226	18	5		17		5			1
North Carolina:										
Durham.....	21,719	3								1
Greensboro.....	19,861	8								
Raleigh.....	24,418	16								3
Rocky Mount.....	12,742	3								1
Salisbury.....	13,884	2								
Wilmington.....	33,372	15							1	2
Winston-Salem.....	48,395	21						6		4
North Dakota:										
Fargo.....	21,961	0					1			
Grand Forks.....	24,010		1				2			
Ohio:										
Akron.....	208,435	31	6		77		19		5	
Ashtabula.....	22,082	8					1			
Barberton.....	18,811	3	1				2			
Bucyrus.....	10,425	1							1	1
Cambridge.....	13,104	7	1		3					
Canton.....	87,091	20	4	1	70		2		2	3
Chillicothe.....	15,531	3	2							
Cincinnati.....	401,247	119	4	1	136	2	11		10	12
Cleveland.....	796,836	211	23	2	122	2	44	2	45	19
Cleveland Heights.....	15,236						5		1	
Columbus.....	237,031	101	1	1	4		5		5	6
Coshocton.....	10,847						1			
Dayton.....	152,559		3				1		2	
East Cleveland.....	27,292	4	1		9					
East Youngstown.....	11,237	4								
Findlay.....	17,021	12								
Fremont.....	12,468	3							1	
Hamilton.....	39,675	12								2
Ironton.....	14,007	4							1	
Kenmore.....	12,653				1					
Lakewood.....	41,732	6	1		2		5			
Mansfield.....	27,524	10					2		3	
Marion.....	27,891		1							
Martins Ferry.....	11,634	2	2							
Middletown.....	23,594	9					1		3	2
Newark.....	26,718	10	2				1			1
New Philadelphia.....	10,718						1			
Niles.....	13,080	5	4				1		1	1
Norwood.....	24,966	3			3		2	1	1	
Piqua.....	15,044	8							1	
Salem.....	10,305	0	1				3			
Springfield.....	60,840	24								2
Steubenville.....	28,508	6					2		3	
Tiffin.....	14,375	4								
Toledo.....	245,109	71	10	1	48		4		3	5
Youngstown.....	132,358		3		17	1	7			2
Zanesville.....	29,569	10	4				9			
Oklahoma:										
Oklahoma.....	91,258	14	4		1		2		1	
Tulsa.....	72,075		2		12					

¹ Pulmonary tuberculosis only.

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Meas'es.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Oregon:										
Portland.....	258,288	68	8	1	3	.....	10	2	2	3
Pennsylvania:										
Allentown.....	73,502	.....	1	.....	.....	.....	1	.....	.....	.....
Altoona.....	60,331	.....	1	.....	.....	.....	2	.....	.....	.....
Berwick.....	12,181	.....	.....	.....	14	.....	2	.....	.....	.....
Bethlehem.....	50,358	.....	2	.....	1	.....	.....	.....	.....	.....
Braddock.....	20,879	.....	.....	.....	6	.....	.....	.....	1	.....
Butler.....	23,778	.....	1	.....	.....	.....	.....	.....	.....	.....
Canonsburg.....	10,632	.....	1	.....	1	.....	1	.....	.....	.....
Carlisle.....	10,916	.....	.....	.....	4	.....	.....	.....	.....	.....
Carnegie.....	11,516	.....	1	.....	.....	.....	.....	.....	.....	.....
Chambersburg.....	13,171	.....	3	.....	.....	.....	.....	.....	.....	.....
Charleroi.....	11,516	.....	1	.....	.....	.....	2	.....	.....	.....
Chester.....	58,080	.....	.....	.....	.....	.....	13	.....	1	.....
Connellsville.....	13,804	.....	.....	.....	1	.....	.....	.....	.....	.....
Donora.....	14,131	.....	.....	.....	.....	.....	2	.....	.....	.....
Dubois.....	13,681	.....	1	.....	.....	.....	.....	.....	3	.....
Duquesne.....	19,011	.....	.....	.....	.....	.....	.....	.....	.....	.....
Easton.....	33,813	.....	1	.....	4	.....	1	.....	.....	.....
Erie.....	93,372	.....	3	.....	1	.....	1	.....	16	.....
Harrisburg.....	75,917	.....	5	.....	2	.....	5	.....	.....	.....
Hazleton.....	32,277	.....	1	.....	46	.....	.....	.....	.....	.....
Jeanette.....	10,627	.....	.....	.....	.....	.....	1	.....	.....	.....
Johnstown.....	67,327	.....	5	.....	3	.....	1	.....	.....	.....
Lancaster.....	53,150	.....	1	.....	.....	.....	6	.....	1	.....
Lebanon.....	24,643	.....	1	.....	.....	.....	3	.....	2	.....
McKeesport.....	45,975	.....	1	.....	18	.....	.....	.....	2	.....
McKees Rocks.....	16,713	.....	.....	.....	.....	.....	1	.....	.....	.....
Mahanoy City.....	15,599	.....	.....	.....	1	.....	2	.....	.....	.....
Monessen.....	18,179	.....	1	.....	1	.....	2	.....	.....	.....
Nanticoke.....	22,614	.....	1	.....	1	.....	.....	.....	.....	.....
New Castle.....	44,938	.....	1	.....	19	.....	1	.....	1	.....
New Kensington.....	11,987	.....	.....	.....	1	.....	.....	.....	.....	.....
Norristown.....	32,319	.....	1	.....	.....	.....	.....	.....	.....	.....
North Braddock.....	14,928	.....	.....	.....	1	.....	.....	.....	1	.....
Oil City.....	21,274	.....	1	.....	.....	.....	.....	.....	1	.....
Old Forge.....	12,237	.....	1	.....	.....	.....	.....	.....	.....	.....
Philadelphia.....	1,823,158	545	68	4	32	1	121	4	68	56
Pittsburgh.....	598,193	.....	15	.....	41	.....	37	.....	27	.....
Plymouth.....	16,500	.....	.....	.....	18	.....	.....	.....	.....	.....
Pottstown.....	17,431	.....	1	.....	1	.....	5	.....	.....	.....
Pottsville.....	21,876	.....	1	.....	8	.....	.....	.....	.....	.....
Punxsutawney.....	10,311	.....	.....	.....	.....	.....	.....	.....	1	.....
Reading.....	107,784	.....	3	.....	1	.....	2	.....	.....	.....
Scranton.....	137,783	.....	5	.....	6	.....	1	.....	.....	.....
Shamokin.....	21,204	.....	.....	.....	2	.....	.....	.....	1	.....
Sharon.....	21,747	.....	.....	.....	.....	.....	2	.....	.....	.....
Shenandoah.....	24,726	.....	2	.....	3	.....	.....	.....	.....	.....
Steelton.....	13,428	.....	.....	.....	.....	.....	3	.....	.....	.....
Sunbury.....	15,721	.....	2	.....	21	.....	.....	.....	.....	.....
Tamaqua.....	12,363	.....	.....	.....	5	.....	.....	.....	.....	.....
Uniontown.....	15,692	.....	1	.....	1	.....	2	.....	.....	.....
Washington.....	21,480	.....	.....	.....	6	.....	.....	.....	.....	.....
Wilkes-Barre.....	73,833	.....	2	.....	10	.....	.....	.....	1	.....
Wilkesburg.....	24,403	.....	1	.....	1	.....	1	.....	.....	.....
Williamsport.....	36,198	.....	.....	.....	.....	.....	1	.....	.....	.....
York.....	47,512	.....	4	.....	.....	.....	.....	.....	.....	.....
Rhode Island:										
Cranston.....	29,407	3	.....	.....	.....	.....	1	.....	.....	.....
East Providence (town).....	21,793	.....	.....	.....	.....	.....	1	.....	.....	.....
Newport.....	30,255	7	4	.....	.....	.....	3	.....	.....	1
Pawtucket.....	64,248	9	1	.....	.....	.....	.....	.....	.....	.....
Providence.....	237,595	83	9	.....	1	.....	1	.....	.....	3
South Carolina:										
Charleston.....	67,957	19	.....	.....	.....	.....	.....	.....	.....	3
Columbia.....	37,524	.....	.....	.....	.....	.....	.....	.....	1	.....
Tennessee:										
Chattanooga.....	57,895	.....	2	1	1	.....	2	.....	.....	4
Knoxville.....	77,818	.....	.....	.....	23	.....	.....	.....	4	4
Memphis.....	162,351	65	1	.....	.....	.....	3	1	10	3
Nashville.....	113,342	45	2	.....	.....	.....	4	.....	.....	3

## CITY REPORTS FOR WEEK ENDED MARCH 25, 1922—Continued.

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
<b>Texas:</b>										
Austin.....	34, 876	27								1
Beaumont.....	40, 422	14			1				1	1
Dallas.....	158, 976	58	4		98		4	1	3	7
El Paso.....	77, 543	81								12
Fort Worth.....	106, 482	13	2						2	2
Galveston.....	44, 255	21								3
Houston.....	138, 076	49								4
Waco.....	38, 500	9	1							
<b>Utah:</b>										
Salt Lake City.....	118, 110	35		2			5		4	3
<b>Vermont:</b>										
Barre.....	10, 008						1			
Burlington.....	22, 779	11					2			
Rutland.....	14, 954	4					1			
<b>Virginia:</b>										
Alexandria.....	18, 060	6								
Danville.....	21, 539	7	1	1	1				2	
Lynchburg.....	29, 956	10	1						3	1
Norfolk.....	115, 777		3				1			1
Petersburg.....	31, 002	10								2
Portsmouth.....	54, 387	12			1		1			7
Richmond.....	171, 667	60	3		30		2		12	2
Roanoke.....	50, 842	17	3				1			
<b>Washington:</b>										
Everett.....	27, 644		1							
Seattle.....	315, 652		3				5		7	
Spokane.....	104, 437		1				5			
Tacoma.....	96, 965						4		7	
Walla Walla.....	15, 503						4			
Yakima.....	18, 539						1			
<b>West Virginia:</b>										
Bluefield.....	15, 282		1						1	
Charleston.....	39, 608	20					1			1
Clarksburg.....	27, 869	9	3		2		1			
Fairmont.....	17, 851		1		1					
Huntington.....	50, 177	17								
Martinsburg.....	12, 515				32					
Morgantown.....	12, 127		1		1		2			
Moundsville.....	10, 669	4	1		5					
Parkersburg.....	20, 050	5	1							
Wheeling.....	54, 322	18	3		1				6	
<b>Wisconsin:</b>										
Beloit.....	21, 284	5					4		2	
Eau Claire.....	20, 680		1							
Fond du Lac.....	23, 427	11					1			
Green Bay.....	31, 017	5								
Janesville.....	18, 293	4								
Kenosha.....	40, 472	9	3		2		1			
La Crosse.....	30, 363						1			
Madison.....	38, 378		1		1					
Manitowoc.....	17, 563								1	
Marinette.....	13, 610						3			
Milwaukee.....	457, 147		10		1		6		12	
Oshkosh.....	33, 162	8								
Racine.....	58, 593	12	5		1		7		2	
Sheboygan.....	30, 955		1							
Stevens Point.....	11, 371		2				2			
Superior.....	39, 624	7					1		5	3
Waukesha.....	12, 558		1				6		1	
Wausau.....	18, 661		1							
<b>Wyoming:</b>										
Casper.....	11, 447	9								
Cheyenne.....	13, 829	5								

## **FOREIGN AND INSULAR.**

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### **AUSTRALIA.**

#### **Plague—Sydney.**

During the week ended April 8, 1922, 1 case of plague was reported at Sydney, Australia.

### **AUSTRIA.**

#### **Influenza—Vienna.**

During the two weeks ended March 4, 1922, 4,516 new cases of influenza were reported in Vienna. Of these, 2,960 cases with 39 deaths and 139 deaths from pneumonia were reported during the week ended February 25, 1922. (Population, census of January 31, 1921, 1,842,005.)

### **CAPE VERDE ISLANDS.**

#### **Plague—St. Vincent.**

Plague was reported present on St. Vincent Island, Cape Verde Islands, under date of March 16, 1922, but without reported mortality during the previous five-month period.

Plague was reported present at St. Vincent in August, 1921, with six cases and three deaths. The port was declared clean September 30, 1921.

### **CHINA.**

#### **Smallpox—Shanghai—Tsingtau.**

Under date of March 9, 1922, smallpox conditions at Shanghai were reported improved.<sup>1</sup> The disease was stated to have been introduced by a famine refugee in January, 1921, and to have appeared sporadically until November, 1921, when a sharp outbreak occurred, with 31 deaths in that month and 161 in December, occurring among Chinese, and 8 deaths in November and 15 in December, occurring among foreigners. Of the deaths among Chinese, 43 per cent were stated to have occurred in the most densely populated and poorest section of Shanghai.

At Tsingtau smallpox has been reported prevalent, with 17 cases and one death notified for the week ended February 19, 1922.

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<sup>1</sup> Public Health Reports, Feb. 17, 1922, p. 377, and Mar. 17, 1922, p. 672.

**ECUADOR.****Plague—Plague Rats—Guayaquil—February, 1922.**

During the month of February, 1922, 11 cases of plague with three deaths were reported at Guayaquil. During the same period the finding of 142 plague rats out of 5,600 rats examined was reported at Guayaquil.

**EGYPT.****Disinfection—Deratization—Alexandria—Year, 1921.**

The quarantine bulletin of Egypt, issued under date of March 9, 1922, shows that 2,708 yessels, of which 873 were sailing vessels, were disinfected on arrival and departure at Alexandria, Egypt, during the year 1921, as compared with 1,038 vessels disinfected during the year 1920. Deratization was applied to 51 vessels, as compared with 32 vessels in 1920, and 1,120 dead rats were found.

**Disinfection of Cattle Ships and Trains.**

The importation of cattle by maritime route was resumed in September, 1921, and has since been regularly conducted. In 1921, 21 cattle ships and their personnel were cleansed and disinfected, the ordure of the animals being dumped into the sea outside the port.

Importation of cattle from the Soudan by train was also resumed. On account of the epizootic diseases prevailing at the points of departure of the animals, disinfection of cattle trains was carried out.

**Treatment of Emigrants from Central Europe.**

At the lazarettoes of Gabbari and Mafrousa, delousing of emigrants arriving from Central Europe and disinfection of their effects were carried out. From September 14 to December 31, 1921, 590 emigrants were passed through the lazarettoes.

**MEXICO.****Influenza—Ciudad Juarez.**

Epidemic influenza was reported present at Ciudad Juarez, Mexico, March 15, 1922, with several hundred cases and some mortality. The type of the disease in Ciudad Juarez and in Mexico generally was stated to be milder than that of the influenza epidemics of 1918-19.

**Influenza Made Notifiable.**

Influenza was stated to have been made notifiable in Mexico.

**UNION OF SOUTH AFRICA.****Plague—Mortality Among Rodents—Orange Free State.<sup>1</sup>**

During the week ended February 11, 1922, a fatal case of plague was reported in the Orange Free State, Union of South Africa. The

<sup>1</sup> Public Health Reports, March 31, 1922, p. 788.

case occurred February 10, 1922, in a native herd boy employed on the Klipfontein farm, 12 miles north of Bothaville. The Klipfontein farm was stated to adjoin the Goodehoop farm, on which suspicious mortality among rodents was reported during the week ended February 4, 1922, and subsequently confirmed as due to plague infection.

# CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.

Reports Received During Week Ended Apr. 14, 1922.<sup>1</sup>

## PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Australia:				
New South Wales:				
Sydney.....	Apr. 2-3.....	1		
Cape Verde Islands:				
St. Vincent.....	Mar. 16.....			Present; no mortality reported during previous five-month period. Aug. 1-31, 1921: Cases, 6; deaths, 3.
Ceylon:				
Colombo.....	Feb. 12-18.....	4	2	
Chile:				
Antofagasta.....	Mar. 5-11.....			One plague rat.
China:				
Hongkong.....	Feb. 5-11.....	3	2	
Ecuador:				
Guayaquil.....	Feb. 1-23.....	11	3	Rats captured, 24,911; examined, 5,600; found infected, 142. Jan. 1-Mar. 9, 1922: Cases, 39; deaths, 19.
Egypt.....				
City—				
Alexandria.....	Mar. 7.....	1		
Province—				
Fayoum.....	Mar. 9.....	3	1	
Minieh.....	do.....	1	1	
India:				
Karachi.....	Feb. 19-25.....	17	19	
Madras Presidency.....	do.....	250	199	
Mexico:				
Tampico.....	Mar. 26-Apr. 1.....	1		Plague-infected rats, Jan. 1-Apr. 1, 1922: 13.
Union of South Africa:				
Orange Free State.....	Feb. 10.....	1	1	On Klipfontein farm, 12 miles from Bothaville. Plague infection found in rats on adjoining farm, week ended Feb. 4, 1922.

## SMALLPOX.

Canada:				
New Brunswick—				
Westmoreland County.....	Mar. 12-18.....	6		
Ontario—				
Niagara Falls.....	Mar. 5-18.....	13		
Ottawa.....	Mar. 19-25.....	2		
China:				
Amoy.....	Jan. 29-Feb. 18.....	3		
Chungking.....	Feb. 5-18.....			Present.
Foochow.....	Feb. 12-Mar. 4.....			Do.
Harbin.....	Feb. 6-12.....	1		
Hongkong.....	Feb. 5-11.....	5	3	
Mukden.....	Mar. 4-10.....			Do.
Nanking.....	Feb. 12-25.....			Do.
Shanghai.....	Feb. 19-Mar. 5.....	2	13	Cases, foreign; deaths, native.
Tsingtau.....	Feb. 13-19.....	17	1	Nov. 1-Dec. 31, 1921: Deaths—foreign, 23; native, 192.
Chosen (Korea):				
Fusan.....	Feb. 1-23.....	59	15	
Gensan.....	do.....	1		
Seoul.....	do.....	7	2	

<sup>1</sup> From medical officers of the Public Health Service, American consuls, and other sources.

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

## **Reports Received During Week Ended Apr. 14, 1922—Continued.**

### **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Dominican Republic: San Pedro de Macoris.....	Mar. 5-11.....			In surrounding country, cases, 61.
Ecuador: Guayaquil.....	Feb. 1-28.....	2		
Haiti.....				Mar. 12-18, 1922: A few sporadic cases reported.
India: Karachi.....	Feb. 19-25.....	17	19	
Madras.....	do.....	74	32	
Mexico: San Luis Potosi.....	Mar. 19-25.....		2	
Nicaragua: Managua.....	Mar. 5.....			Present.
Panama: Chiriqui Province.....				At Boquete Pajo, Jan. 22-Mar. 23, 1922, 59 admissions to lazaretto; on Mar. 20, 1922, 18 cases of smallpox, confluent type.
Rumania: Chisinau.....	Dec. 1-31.....	33		
Spain: Malaga.....	Jan. 1-31.....		8	
Seville.....	Mar. 5-11.....		15	
Valencia.....	Feb. 26-Mar. 4.....	2		
Switzerland: St. Gall.....	Feb. 12-18.....	1		
Syria: Beirut.....	Feb. 5-25.....	12	9	
Turkey: Constantinople.....	Feb. 26-Mar. 11.....	31	4	
Union of South Africa: Cape Province.....	Jan. 29-Feb. 11.....			Outbreaks.
Natal.....	Feb. 5-11.....			Do.
Orange Free State.....	do.....			Do.
Rhodesia, Southern.....	Jan. 19-Feb. 15.....	53		
Transvaal.....	Jan. 15-Feb. 11.....			Do.
On vessel: S. S. Victoria.....	Jan. 16.....	1	1	At Thursday Island Quarantine, Australia; vessel left Hongkong Jan. 3; case isolated, Jan. 10. Vessel left for Townsville, Sydney, and Melbourne. Released at Melbourne Feb. 4, 1922.

### **TYPHUS FEVER.**

China: Harbin.....	Feb. 6-19.....	3		
Czechoslovakia: Prague.....	Jan. 22-Feb. 18.....	3		
Egypt: Cairo.....	Jan. 8-14.....	2	2	
Palestine: Jerusalem.....	Feb. 28-Mar. 13.....	2		
Rumania: Chisinau.....	Dec. 1-31.....	21		Recurrent typhus, 19 cases.
Syria: Diarbekir.....	Mar. 5-11.....			Present.
Mardin.....	do.....			Do.
Turkey: Constantinople.....	Feb. 26-Mar. 11.....	8		
Union of South Africa: Cape Province.....	Jan. 29-Feb. 11.....			Outbreaks.
East London.....	do.....	2		Natives.
Orange Free State.....	do.....			Outbreaks.
Durban.....	Jan. 15-21.....	1		Imported.
Transvaal.....	Jan. 29-Feb. 11.....			Outbreaks.



# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 31, 1921, to Apr. 7, 1922.**

## **CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>India.</b>				
Bombay	Oct. 30-Nov. 5.	1	1	Oct. 2-Dec. 31, 1921: Deaths, 37,749. (Corrected report.)
Do.	Jan. 29-Feb. 4.	1	1	
Calcutta	Oct. 23-Dec. 31.	71	60	
Do.	Jan. 1-Feb. 18.	116	102	
Karachi	Nov. 6-12.	1	1	
Madras	Dec. 11-31.	4	1	
Do.	Jan. 1-Feb. 4.	10	7	
Rangoon	Oct. 1-Dec. 31.	30	24	
Do.	Jan. 1-Feb. 11.	24	21	
<b>Indo-China:</b>				
Saigon	Nov. 6-12.	1	1	
<b>Java:</b>				
West Java—				
Batavia	Nov. 1-7.	2	2	At Lebak.
<b>Philippine Islands:</b>				
Manila	Nov. 13-Dec. 31.	49	18	
Do.	Jan. 1-Feb. 18.	76	24	
Province—				
Bulacan	Dec. 25-31.	1	1	
Pampanga	do.	1	1	
Zambales	Dec. 11-31.	31	18	
<b>Poland</b>				Aug. 14-Sept. 10, 1921: Cases, 4; deaths, 1.
<b>Russia:</b>				
Kharkoff	Jan. 28.			Present.
Kieff	Dec. 15-Jan. 11.	259		
Latvia—				
Riga				At quarantine station in October, 1921: One case.
Odessa	Jan. 23.			Present.
<b>Siam:</b>				
Bangkok	Oct. 23-Dec. 24.	8	4	
Do.	Jan. 29-Feb. 4.	2	2	

## **PLAGUE.**

<b>Asia Minor:</b>				
Smyrna	Nov. 27-Dec. 3.	1	1	
<b>Australia:</b>				
New South Wales—				
Sydney	do.	2	1	Dec. 7-13: 4 plague rats. Jan. 15-21, 1922: 1 plague rat.
Do.	Jan. 29-Mar. 25.	7	1	Mar. 26-Apr. 1, 1922: Cases reported, 6 to 10; 1 death.
<b>Queensland—</b>				
Aramac	Mar. 19-25.	1	1	Inland town on railroad about 150 miles from coast.
Brisbane	Oct. 30-Dec. 31.	27	20	Total, Aug. 22-Dec. 31, 1921: Cases, 41; deaths, 27. Total infected rats, 54. Total cases, Jan. 1-Mar. 18, 1922: 10. Total infected rats, 10.
Do.	Jan. 1-Mar. 18.	10		
Bundaberg	Mar. 5-11.	1		
Cairns	Oct. 30-Dec. 31.	6	3	Plague rats, 9.
Do.	Jan. 1-7.		1	
Cooktown	Oct. 30-Nov. 5.	1		Pestis minor.
Ingham				Nov. 6-Dec. 24, 1921: Plague rats, 14. Jan. 1-14, 1922: 2 plague rats.
Inisfail				Nov. 27-Dec. 3, 1921: 1 plague rat.
Ipswich	Dec. 11-17.	1	1	
Port Douglas	Nov. 13-19.	1	1	
Townsville	Nov. 20-Dec. 2.	2	2	Total cases, 27; deaths, 18.
Do.	Jan. 1-14.		2	To Jan. 14, 1922: Cases, 32; deaths, 21.

# CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Apr. 7, 1922—Continued.

## PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Azores:</b>				
Islands—				
Fayal.....	Jan. 16-22.....	2	2	Nov. 27-Dec. 31, 1921: Cases, 23; deaths, 9. Jan. 1-21, 1922: Cases, 13; deaths, 8. Jan. 22-Mar. 4, 1922: Cases, 51, deaths, 25; occurring at Arrifes, Capelas, Fenaes, Ribeira Grande, and Santo Antonio; distance from port of Ponta Delgada, 3 to 9 miles.
St. Michael.....				
Arrifes.....	Dec. 25-31.....	1	1	3 miles from port.
Do.....	Jan. 1-7.....	1		
Fenaes d'Ajuda.....	Nov. 27-Dec. 3.....			Present. 6 miles from port.
Do.....	Jan. 15-21.....	3	2	
Ribeira Grande.....	Nov. 12-Dec. 10.....	19	8	9 miles from port.
Do.....	Jan. 8-14.....	9	6	
Livramento.....	Dec. 4-10.....	2		Vicinity of Ponta Delgada.
Ponta Delgada.....	do.....	1		
<b>Brazil:</b>				
Bahia.....	Oct. 30-Dec. 31.....	13	12	
Do.....	Jan. 1-23.....	12	9	
Para.....	Feb. 6-12.....		1	
Rio de Janeiro.....	Jan. 22-28.....	1	1	
<b>British East Africa:</b>				
Uganda.....	Aug. 1-Nov. 29.....	169	140	Aug. 1-Oct. 31, 1921: Reports of inspectors, deaths, 343; reports of chiefs, deaths, 651.
<b>Ceylon:</b>				
Colombo.....	Oct. 30-Dec. 31.....	13	10	Oct. 30-Dec. 24, 1921: rodent plague, 6.
Do.....	Jan. 1-Feb. 11.....	18	17	Infected rats, 10.
<b>China:</b>				
Hongkong.....	Nov. 20-Dec. 17.....	6		
Do.....	Jan. 1-Feb. 4.....	16	8	
<b>Ecuador:</b>				
Guayaquil.....	Nov. 16-Dec. 31.....	18	6	Rats examined, 2,958; found infected, 90. Total, July-Dec. 15, 1921: Cases, 28. Jan. 1-31, 1922: Rats examined, 6,209; found infected, 153.
Do.....	Jan. 1-31.....	20	9	Jan. 1-Dec. 31, 1921: Cases, 356; deaths, 153. Jan. 1-Mar. 2, 1922: Cases, 34; deaths, 17.
<b>Egypt:</b>				
City—				
Alexandria.....	Dec. 5-30.....	7	2	Feb. 12-18, 1922: One plague rodent.
Do.....	Jan. 17-Feb. 26.....	5	3	
Port Said.....	Dec. 20.....	1		
Suez.....	Nov. 22-Dec. 31.....	16	9	
Do.....	Jan. 2-29.....	4	2	
Province—				
Assouan.....	Feb. 28.....	1	1	Septicemic.
Fayoum.....	Feb. 17.....	2		
Gharbieh.....	Feb. 17-28.....	4		
Girgeh.....	Jan. 12.....	1		
Keneh.....	Dec. 1.....	1		
Do.....	Jan. 21-Feb. 28.....	4	3	Pneumonic, 1 case, 1 death; septicemic, 1 case.
Do.....	Feb. 21-28.....	2	2	Septicemic.
<b>Greece:</b>				
Freveza.....	Feb. 8.....			Outbreak. Port on the Ionian Sea.
<b>India:</b>				
Bombay.....	Oct. 23-Dec. 24.....	7	6	Oct. 23-Dec. 31, 1921: Cases, 8,690; deaths, 6,458 (reports, weeks ended Dec. 3 and 17, 1921, missing). Jan. 1-Feb. 4, 1922: Cases, 10,246; deaths, 7,842.
Do.....	Jan. 1-Feb. 4.....	15	14	
Calcutta.....	Jan. 29-Feb. 11.....	2	2	
Karachi.....	Nov. 6-Dec. 31.....	5	5	
Do.....	Jan. 1-Feb. 18.....	45	30	
Madras.....	Dec. 11-17.....	1		
Madras Presidency.....	Nov. 13-Dec. 31.....	2,047	1,438	
Do.....	Jan. 1-Feb. 18.....	2,534	1,812	
Rangoon.....	Oct. 1-Dec. 31.....	139	129	
Do.....	Jan. 1-Feb. 11.....	206	186	
<b>Indo-China:</b>				
Saigon.....				Nov. 6-Dec. 24, 1921: Rodent plague, 10. Jan. 8-28, 1922: Rodent plague, 4.

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 31, 1921, to Apr. 7, 1922—Continued.**

## **PLAGUE—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Italy:				
Catania.....	Nov. 27.....	1	1	Total, Oct. 16-Nov. 27, 1921: Cases, 8 (of which 1 doubtful); deaths, 5. Jan.-Feb., 1922: 28 plague-infected rats found.
Naples (Province)— Torre Annunziata.....	Oct. 23-Dec. 27.....	2		17 miles from city of Naples.
Venice.....	Oct. 27.....	1		
Java:				Islands of Java and Madura, Nov. 1-Dec. 31, 1921; deaths, 1,781.
East Java				
Soerabaya.....	Oct. 30-Dec. 10.....	11	12	
Do.....	Jan. 1-28.....	3	3	
Madagascar:				
Tananarive.....	Mar. 2.....	38		Among natives. Entire city reported infected. Feb. 4: Present.
Mauritius (Island):				
Port Louis.....	Oct. 29-Dec. 30.....	241	142	Plague-infected rats, 178; plague-infected cats, 36. (Corrected report.) Dec. 1-30, 1921: Dead rats found, 155; dead cats, 4.
Do.....	Dec. 31-Jan. 11.....	7	2	Dead rats found, 17.
Mesopotamia:				
Bagdad.....	Oct. 1-31.....	1	1	
Mexico:				
Tampico.....				Dec. 18-31, 1921: Infected rodents found, 5; total, Jan. 1-Dec. 31, 1921, infected rodents, 322; Jan. 1-Mar. 18, 1922, 12 plague-infected rodents.
Vera Cruz.....				One infected rodent caught Dec. 5, 1921.
Peru.....				Nov. 17-Dec. 31, 1921: Cases, 94; deaths, 35. Occurring in Callao, Huacho, Huaras, Lima, Magdalena Vieja, Paita, Salaverry, and Sechura, Jan. 1-Feb. 28, 1922: Cases, 141; deaths, 62. (Corrected report to Feb. 15, 1922.)
Localities—				
Bambamarca.....	Jan. 1-15.....			Present. Rural.
Barranco.....	Jan. 16-31.....	1		
Callao.....	Jan. 1-Feb. 28.....	7	4	Rural. Year, 1921: Deaths, 30.
Casma.....	Feb. 1-28.....	11	3	
Chiclayo.....	Jan. 16-Feb. 28.....	19	16	
Chilca.....	Jan. 16-Feb. 15.....	11	2	
Cutervo.....	Jan. 1-15.....	1		Rural.
Guadalupe.....	Jan. 4-31.....	7	2	
Huacho.....	Jan. 1-Feb. 15.....	3		
Hualgayoc.....	Jan. 16-31.....			Province. Present.
Huaral.....	Jan. 1-15.....	2		
Jayanca.....	do.....			Present.
Lambayeque.....	Jan. 16-Feb. 15.....	3	1	
Lima.....	Jan. 1-Feb. 28.....	14	4	In district, 20 cases; 6 deaths.
Mollendo.....	Feb. 1-28.....	3		
Pacasmayo.....	do.....	1		
Payta.....	Jan. 1-Feb. 28.....	28	21	
Piura.....	Feb. 1-15.....	1		
Salaverry.....	Jan. 16-31.....	1		
San Pedro.....	Jan. 1-15.....	1		
Sullana.....	Jan. 1-Feb. 28.....	3	3	
Trujillo.....	Feb. 1-15.....			Present.
Tumbes.....	do.....	4		
Portugal:				
Lisbon.....	Dec. 15.....	1	1	
Portuguese West Africa:				
Angola—				
Loanda.....	Oct. 9-Nov. 5.....		2	
Mossamedes.....	Feb. 14.....			Present.
Rhodes (Island) (Aegean Sea):				
Senegal:				
Dakar.....				Jan. 1-31, 1922: 1 rodent plague.
Siam:				
Bangkok.....	Oct. 23-Dec. 31.....	7	6	
Do.....	Jan. 8-Feb. 4.....	14	1	

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 31, 1921, to Apr. 7, 1922—Continued.**

## **PLAGUE—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Straits Settlements:</b>				
Singapore.....	Nov. 6-Dec. 31....	3	3	
Do.....	Jan. 15-Feb. 11....	6	5	
<b>Syria:</b>				
Beirut.....	Oct. 9-Nov. 20....	10	4	
<b>Turkey:</b>				
Constantinople.....	Jan. 1-7.....	1		
<b>Union of South Africa:</b>				
Orange Free State—				
Boschrand Farm.....	Jan. 25.....	3	3	10 miles from Kroonstad.
Bothaville.....	Nov. 19.....			Plague-infected mouse found.
Hoopstad.....	Dec. 4-10.....	1		In native herd-boy.
<b>On vessel:</b>				
S. S. Polycarp.....	Feb. 3.....	1		At Para, Brazil, from Ceara, via
				Manaos, Maranh, and Para
				for New York.
S. S. Tango Maru.....	Dec. 31.....	1		At Thursday Island Quarantine,
				Australia, from Kobe, via
				Nagasaki, Hongkong, Manila,
				and Zamboanga.
S. S. Warwickshire.....	Feb. 12.....			At Liverpool, England, from
				Rangoon. Plague rats, 27;
				1 plague mouse.

## **SMALLPOX.**

<b>Arabia:</b>				
Aden.....	Dec. 25-31.....		1	
Do.....	Jan. 8-14.....		1	
<b>Asia Minor:</b>				
Smyrna.....	Jan. 15-21.....	1		In district.
<b>Algeria:</b>				
Algiers.....	Jan. 1-Feb. 28....	2		
<b>Bolivia:</b>				
La Paz.....	Aug. 1-Dec. 31....	60	41	
Do.....	Jan. 1-31.....	15	9	
<b>Brazil:</b>				
Bahia.....	Nov. 6-Dec. 17....	4		
Do.....	Jan. 8-14.....	1		
Rio de Janeiro.....	Nov. 13-Dec. 31....	13	2	
Do.....	Jan. 1-28.....	16	4	
Sao Paulo.....	Oct. 31-Dec. 25....	11		
Do.....	Dec. 26-Jan. 1....	1		
<b>British East Africa:</b>				
Uganda.....	Aug. 1-Nov. 30....	22	3	
<b>Canada:</b>				
<b>British Columbia—</b>				
Vancouver.....	Dec. 25-31.....	3		
Do.....	Jan. 29-Feb. 4....	1		
Victoria.....	Mar. 12-18.....	1		
<b>Manitoba.....</b>				
Winnipeg.....	Nov. 20-Dec. 3....	2		Year 1921: Cases, 71.
<b>New Brunswick—</b>				
Charlotte County.....				Dec. 17, 1921: 31 cases previously
St. Stephen.....	Dec. 11-17.....	2		reported, occurring at Ander-
				sonville and Blacks Harbor.
				Dec. 18-24, 1921: Cases, 3. Dec.
				25-31, 1921: Cases, 2. Feb. 19-
				20, 1922: Cases, 2.
Restigouche County.....				Dec. 11-31, 1921: Cases, 3. Feb.
				12-25, 1922: Cases, 4.
Charlo.....	Feb. 19-25.....	2		20 miles from Campbellton.
Westmoreland County.....	Mar. 5-11.....	7		
York County.....	Dec. 11-17.....	1		
Do.....	Jan. 29-Feb. 4....	1		
<b>Ontario.....</b>				
Fort William and Port	Jan. 1-21.....	3		Dec. 1-31, 1921: Cases, 123. Jan.
Arthur.....				1-31, 1922: Cases, 170; Feb. 1-
Hamilton.....	Jan. 22-Mar. 25....	4		28, 1922: Cases, 185.
Kingston.....	Jan. 17-Feb. 11....	5		
Niagara Falls.....	Dec. 11-24.....	2		Jan. 16-20, 1922: Two cases re-
Do.....	Jan. 15-Mar. 4....	25		ported.
North Bay.....	Feb. 12-18.....	1		

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 31, 1921, to Apr. 7, 1922—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Canada—Continued.</b>				
<b>Ontario—Continued.</b>				
Ottawa.....	Dec. 11-24.....	17	—	
Do.....	Jan. 1-Mar. 18.....	32	—	
Sault Ste. Marie.....	Jan. 15-21.....	1	—	
Toronto.....	Dec. 11-24.....	4	—	
Do.....	Jan. 1-Mar. 11.....	47	—	
Windsor.....	Jan. 8-Mar. 4.....	3	—	
<b>Quebec—</b>				
Montreal.....	Dec. 11-24.....	1	—	
<b>Saskatchewan—</b>				
Regina.....	Jan. 1-Feb. 11.....	4	—	
Saskatoon.....	Dec. 1-18.....	6	—	
Do.....	Feb. 5-18.....	3	—	
<b>Canal Zone:</b>				
Ancon.....				Admitted to hospital by transfer from Panama, Nov. 30, 1921, 1 case. Arrived on sailing vessel from a village on south coast.
<b>Ceylon:</b>				
Colombo.....	Nov. 27-Dec. 3.....	1	—	Port case.
Do.....	Jan. 29-Feb. 4.....	1	—	
<b>Chile.</b>				
				Jan.-Sept., 1921: Cases, 5,500 (approximately); deaths, 2,500 (approximately). Nov. 15-21, 1921: Diffused in southern provinces; not epidemic.
Concepcion.....	Nov. 23-Dec. 26.....		25	Nov. 15-21, 1921: Present. In vicinity, at Hualqui, cases, 32; deaths, 5. Dec. 4-17, 1921: Present.
Do.....	Dec. 27-Jan. 30.....		21	Present.
Coronel Curanilahue.....	Nov. 15-Dec. 17.....			Present.
Lota.....	Nov. 15-21.....	4	—	
				Oct. 28, 1921-Jan. 31, 1922: Cases, 879; deaths, 338.
Osorno.....				From beginning of outbreak to Feb. 15, 1922: Cases, 87.
Talcahuano.....	Nov. 15-Dec. 24.....	6	—	
Do.....	Jan. 29-Feb. 18.....	5	—	
Temuco.....	Nov. 15-21.....	9	—	Jan. 8-28, 1922: Present.
				From beginning of outbreak to Feb. 15, 1922: Cases, 80.
Valparaiso.....	Oct. 23-Dec. 31.....		94	
Do.....	Jan. 1-21.....		39	
<b>China:</b>				
Amoy.....	Nov. 16-Dec. 31.....		7	Nov. 23-23, 1921: Present, Jan. 22-28, 1922: Present.
Do.....	Jan. 1-21.....		4	
Antung.....	Nov. 28-Dec. 18.....	4	1	
Canton.....	Dec. 1-31.....			Present.
Changsha.....	Jan. 16-22.....	1	—	
Chungking.....	Nov. 6-Dec. 31.....			Do.
Do.....	Jan. 1-21.....			Do.
Foochow.....	Nov. 6-Dec. 31.....			Do.
Do.....	Jan. 1-Feb. 11.....			Do.
Hankow.....	Nov. 13-Dec. 31.....			Do.
Do.....	Jan. 1-21.....	2	—	
Harbin.....	Nov. 14-Dec. 11.....	5	—	
Do.....	Dec. 26-Jan. 1.....	2	—	
Hongkong.....	Dec. 3-31.....	5	—	
Do.....	Jan. 1-Feb. 4.....	11	7	
Mukden.....	Nov. 20-Dec. 31.....			Do.
Do.....	Jan. 15-21.....			Do.
Nanking.....	Nov. 20-Dec. 17.....			Do.
Do.....	Jan. 15-Feb. 4.....			Do.
Shanghai.....	Oct. 31-Dec. 31.....	67	194	Cases, foreign; deaths, Chinese and foreign. Populations: Native, 790,000; foreign, 21,000.
Do.....	Jan. 2-Feb. 19.....	31	181	Cases, foreign; deaths, native. Jan. 14, 1922: Seriously prevalent.
Tientsin.....	Dec. 11-17.....	2	—	In Mission Hospital.
Tsingtau.....	Jan. 1-Feb. 12.....	14	10	
<b>Chosen (Korea):</b>				
Fusan.....	Dec. 1-31.....	3	1	
Do.....	Jan. 1-31.....	21	4	
Seoul.....	Do.....	1	1	

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 31, 1921, to Apr. 7, 1922—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Colombia:				
Cartagena.....	Nov. 22-28.....	.....	1	
Santa Marta.....	Feb. 19-25.....	.....		Present.
Cuba.....				Dec. 4-31, 1921: Cases, 361. Jan. 1-31, 1922: Cases, 257.
Antilla.....	Dec. 12-31.....	3		At Preston.
Do.....	Jan. 8-Feb. 4.....	13	1	
Cienfuegos.....	Jan. 22-Mar. 4.....	5	1	Two cases from outside city limits.
Santiago.....	Jan. 1-Feb. 28.....	8	1	
Czechoslovakia:				
Prague.....	Dec. 18-24.....	.....	42	
Dominican Republic.....				Oct. 1-31, 1921: Cases, 653, deaths, 54. Jan. 2-Feb. 4, 1922: Cases, 6,922; deaths, 185.
Puerta Plata.....	Jan. 13.....	100	5	In district, widely diffused, with 1,000 estimated cases with 100 deaths.
San Pedro de Macoris.....	Nov. 20-Dec. 31.....	31	1	Estimate of about 500 cases of smallpox in the district of Macoris; of this amount 50 within the city limits.
Do.....	Jan. 14-Feb. 4.....	122		In surrounding country. Feb. 12-25: 66 cases. Feb. 26-Mar. 4: 59 cases.
Santo Domingo.....	Nov. 15-Dec. 5.....	.....		In district, 401 cases estimated Dec. 17-24, 1921: Present in vicinity. Jan. 9-16, 1922: In surrounding country, 1,745 cases (estimated).
Ecuador:				
Guayaquil.....	Nov. 16-Dec. 31.....	7		And vicinity.
Do.....	Jan. 1-15.....	1		
Egypt:				
Alexandria.....	Nov. 26-Dec. 2.....	1	1	
Cairo.....	do.....	2		
Port Said.....	Dec. 20-26.....	1		Dec. 16-23, 1921: 1 case.
Do.....	Jan. 22-28.....	1		
Finland.....				Nov. 16-30, 1921: 1 case.
Do.....				Feb. 1-15, 1922: Cases, 19.
Fiume.....				Dec. 27, 1921-Jan. 2, 1922: Cases, 2.
Great Britain:				
Manchester.....	Jan. 1-7.....	4		
Nottingham.....	Dec. 4-31.....	18		
Do.....	Jan. 8-28.....	3		
Swansea.....	Jan. 17-23.....	2		Imported on vessel from Persian Gulf.
Haiti.....				Jan. 22-28, 1922: A few cases.
Cape Haitien.....	Dec. 11-24.....	8		
Do.....	Jan. 1-Feb. 18.....	21	1	
Port au Prince.....	Dec. 11-31.....	.....		Present.
Do.....	Jan. 15-21.....	2		
India.....				Oct. 2-8, 1921: Deaths, 23. Oct. 23-Nov. 19, 1921: Deaths, 266. Nov. 27-Dec. 31, 1921: Deaths, 533.
Bombay.....	Oct. 23-Dec. 31.....	3	2	
Do.....	Jan. 1-Mar. 4.....	5		
Calcutta.....	Nov. 13-Dec. 31.....	37	28	
Do.....	Jan. 1-Feb. 18.....	100	92	
Karachi.....	Nov. 11-Dec. 31.....	28	9	
Do.....	Jan. 1-Feb. 11.....	35	14	
Madras.....	Nov. 13-Dec. 31.....	183	59	
Do.....	Jan. 1-Feb. 18.....	437	144	
Rangoon.....	Oct. 1-Dec. 31.....	6		
Do.....	Jan. 15-Feb. 11.....	63		
Indo-China:				
Saigon.....	Dec. 18-24.....	1	1	City and district.
Do.....	Jan. 8-21.....	4	1	Do.
Italy:				
Catania.....	Feb. 20-26.....	1		In Province.
Genoa.....	Nov. 10-20.....	1		
Messina.....				
Messina.....	Nov. 28-Dec. 4.....	1		
Pettineo.....	Nov. 14-Dec. 4.....	2		
Venice.....	Jan. 30-Feb. 5.....	2		

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 31, 1921, to Apr. 7, 1922—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Japan:				
Kobe.....	Jan. 23-29.....	3	1	
Taiwan Island.....	Dec. 1-31.....	2	1	
Do.....	Feb. 14-20.....	1	1	
Yokohama.....	Jan. 9-29.....	3	.....	Corrected report.
Java:				
East Java—				
Soerabaya.....	Jan. 1-7.....	4	.....	
West Java—				
Bandoeng.....	Nov. 18-Dec. 8.....	2	.....	
Batavia.....	Nov. 18-Dec. 22.....	11	9	City and Province.
Do.....	Dec. 30-Jan. 26.....	3	3	In Province: Cases, 23; deaths, 4;
Buitenzorg.....	Nov. 25-Dec. 8.....	7	1	13 cases, with 3 deaths, not
Krawang.....	Nov. 18-24.....	1	.....	locally stated. Feb. 3-9, 1922:
Lebak.....	Nov. 18-Dec. 8.....	7	4	Cases, 10; deaths, 1.
Pandeglang.....	Nov. 25-Dec. 1.....	.....	1	
Tangerang.....	Nov. 18-Dec. 8.....	5	1	
Liberia:				
Grand Bassa County.....	Nov. 30.....	.....	.....	Present at Lower Buchanan.
Mesopotamia:				
Bagdad.....	Oct. 1-Nov. 30.....	117	50	Epidemic with high mortality
				November, 1921.
Mexico:				
Chihuahua.....	Dec. 5-11.....	.....	1	
Do.....	Jan. 23-Feb. 19.....	.....	2	
Guadalajara.....	Nov. 1-Dec. 31.....	6	.....	
Do.....	Jan. 1-31.....	11	2	
Mexico City.....	Nov. 20-Dec. 31.....	64	.....	Including municipalities in Fed-
Do.....	Jan. 1-Feb. 18.....	107	.....	eral District.
Saltillo.....	Jan. 29-Feb. 4.....	.....	1	From San Salvador, Zacatecas.
San Luis Potosi.....	Dec. 18-24.....	.....	2	
Do.....	Jan. 8-Mar. 11.....	.....	10	
Torreón.....	Dec. 1-31.....	134	.....	
Do.....	Jan. 1-Feb. 28.....	.....	82	
Newfoundland:				
St. Johns.....	Feb. 4-10.....	1	.....	
Palestine:				
Jerusalem.....	Jan. 10-Feb. 20.....	27	.....	
Panama:				
Bocas del Toro Province—				
Sursutá.....	Jan. 18-Feb. 8.....	11	.....	Village 24 miles from Almirante.
Chiriqui Province.....	Dec. 22.....	.....	.....	Present.
Do.....	Jan. 26.....	.....	.....	Present with center of prevalence
Panama.....	Dec. 14.....	1	.....	at Boquete Bajo.
				On Dec. 21, 1921: 1 additional
				case from country district of
				Sabanas, admitted to hospital.
				Total admissions, Jan. 1-Dec.
				21, 1921, 207.
Peru:				
Lima.....	Nov. 1-Dec. 31.....	.....	3	
Poland.....				
				Aug. 14-Dec. 31, 1921: Cases, 578;
				deaths, 146. Exclusive of
				Brest-Litovsk, Minsk, and
				Wilno districts.
Portugal:				
Lisbon.....	Nov. 13-Dec. 31.....	48	12	
Do.....	Jan. 1-28.....	46	1	
Portuguese East Africa:				
Lourenço Marques.....	Oct. 1-Nov. 5.....	2	4	
Portuguese West Africa:				
Angola—				
Loanda.....	Oct. 9-Dec. 31.....	.....	7	
Do.....	Jan. 1-14.....	.....	3	
Rumania:				
Bucharest.....	Nov. 1-30.....	.....	33	
Russia:				
Esthonia.....	Oct. 1-Dec. 31.....	38	.....	
Latvia.....	do.....	75	.....	
Do.....	Jan. 1-31.....	15	.....	
Senegal:				
Dakar.....	do.....	.....	2	
Serbia:				
Belgrade.....	Oct. 2-Nov. 26.....	16	4	

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 31, 1921, to Apr. 7, 1922—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Siam:				
Bangkok.....	Oct. 23-Nov. 5....	1		
Spain:				
Barcelona.....	Jan. 8-14.....		1	
Huelva.....	Oct. 1-Dec. 31....		3	
Malaga.....	Nov. 1-Dec. 31....		60	
Seville.....	Nov. 16-Dec. 31....		7	
Do.....	Jan. 8-Feb. 25....		18	
Valencia.....	Jan. 22-23.....	1		
Straits Settlements:				
Singapore.....	Nov. 6-Dec. 24....	49	13	
Do.....	Jan. 1-Feb. 4.....	50	18	
Switzerland:				
Glarus, Canton.....	Dec. 10.....			Epidemic.
Zurich.....	do.....	2		In vicinity.
Lucerne.....	Feb. 1-28.....	12		
Syria:				
Adana.....	Dec. 18-24.....			Present.
Do.....	Jan. 1-14.....			Do.
Aleppo.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Mar. 4.....			Do.
Alexandretta.....	do.....			Do.
Beirut.....	Oct. 9-Nov. 13....	5	2	
Do.....	Jan. 8-28.....	8		Dec. 29, 1921-Jan. 4, 1922: Cases, 14; deaths, 2.
Cilicia.....	Jan. 8-Feb. 4.....			Present.
Diarbekir.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Feb. 4.....			Do.
Mersina.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-7.....			Do.
Urfa.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Feb. 4.....			Do.
Tunis:				
Tunis.....	Nov. 26-Dec. 23....	17	15	
Do.....	Jan. 1-Feb. 4.....	4	5	
Turkey:				
Constantinople.....	Nov. 27-Dec. 24....	20	4	
Do.....	Jan. 15-Feb. 25....	43	13	
Union of South Africa:				
Cape Province.....	Nov. 5-Dec. 31....			Nov. 1-Dec. 31, 1921: Cases, 326; deaths, 6 (colored). White, 10 cases.
Do.....	Jan. 8-14.....			Outbreaks. Nov. 1-Dec. 31, 1921: Cases, 42; deaths, 1 (colored).
Natal.....	do.....			Outbreaks.
Orange Free State.....	Oct. 23-Dec. 24....			Outbreaks. Nov. 1-Dec. 31, 1921: Cases, 209; deaths, 5 (colored).
Southern Rhodesia.....	Dec. 29-Jan. 18....	16		Outbreaks. Nov. 1-Dec. 31, 1921: Cases, 8 (colored).
Transvaal.....	Oct. 23-Dec. 31....			Outbreaks.
Do.....	Jan. 1-14.....			December, 1921: Cases, 15. Nov. 1-Dec. 31, 1921: Cases, 22 (colored). Among white population, 8 cases, State not designated.
Johannesburg District.....	Dec. 1-31.....	1		
Do.....	Jan. 1-7.....			Outbreaks.
Yugoslavia:				
Bosnia Herzegovina.....	July 3-9.....	2		July 3-30, 1921: Cases, 37.
Croatia Slavonia.....	do.....	1		
Dalmatia.....	do.....	1		
Serbia.....	do.....	3		
Belgrade.....	Dec. 11-17.....	4		
Do.....	Jan. 1-Feb. 18....	6		
Slavonia.....	July 3-9.....	1		
Voivodina.....	do.....	3		
On vessel:				
S. S. West O'Rowa.....	Jan. 5-9.....	3	1	At Kobe, Japan, from Shanghai, China.
S. S. —.....	Jan. 17-23.....	2		At Swansea, Wales, from Persian Gulf.



# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 31, 1921, to Apr. 7, 1922—Continued.**

## **TYPHUS FEVER.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Algeria:</b>				
Algiers.....	Nov. 1-Dec. 31.....	3	.....	
Do.....	Jan. 11-Feb. 28.....	3	.....	
Oran.....	Dec. 21-31.....	1	.....	
Do.....	Jan. 1-Mar. 10.....	13	4	
<b>Asia Minor:</b>				
Broussa.....	Jan. 15-21.....	1	.....	
<b>Austria:</b>				
Vienna.....	Dec. 4-31.....	10	.....	
Do.....	Jan. 1-28.....	9	1	
<b>Bolivia:</b>				
La Paz.....	Aug. 1-Dec. 31.....	121	98	
Do.....	Jan. 1-31.....	15	12	
<b>Bulgaria:</b>				
Sofia.....	Dec. 18-24.....	1	.....	
Do.....	Feb. 12-18.....	1	.....	
<b>Chile:</b>				
Concepcion.....	Nov. 22-Dec. 26.....	.....	3	
Do.....	Jan. 3-30.....	.....	3	
Talcahuano.....	Jan. 29-Feb. 18.....	3	.....	
Valparaiso.....	Oct. 23-Nov. 26.....	.....	6	
Do.....	Jan. 1-7.....	.....	1	
<b>China:</b>				
Antung.....	Dec. 26-Jan. 1.....	1	.....	
Do.....	Feb. 6-12.....	1	.....	
Harbin.....	Nov. 7-Dec. 25.....	12	.....	
Do.....	Dec. 26-Jan. 29.....	17	.....	Jan. 23, 1922: Reported extending from Soviet Russia, along railway line to maritime provinces.
<b>Danzig (free city)</b> .....	Feb. 23.....	1	.....	In district, at Zoppot. In merchant from Warsaw.
<b>Egypt:</b>				
Alexandria.....	Nov. 19-Dec. 31.....	3	1	
Do.....	Jan. 15-Feb. 25.....	17	5	
Cairo.....	Oct. 1-Dec. 31.....	18	14	
Do.....	Jan. 1-7.....	1	.....	
Port Said.....	Jan. 22-Feb. 11.....	2	.....	
<b>Finland:</b>				
Helsingfors.....	Jan. 1-31.....	1	.....	In courier from Moscow.
<b>Germany:</b>				
Breslau.....	Dec. 25-31.....	2	1	
Do.....	Jan. 1-Feb. 5.....	55	8	Including district.
Frankfort-on-Oder.....	Feb. 16.....	26	.....	In persons returning from Russia.
Hamburg.....	Dec. 11-17.....	4	.....	
<b>Great Britain:</b>				
Glasgow.....	Dec. 25-31.....	1	.....	
<b>Greece:</b>				
Saloniki.....	Jan. 23-29.....	1	.....	
<b>Italy:</b>				
Palermo.....	Jan. 15-28.....	3	1	
<b>Mesopotamia:</b>				
Bagdad.....	Oct. 1-Dec. 31.....	3	9	
<b>Mexico:</b>				
Mexico City.....	Nov. 20-Dec. 31.....	242	.....	Including municipalities in Federal District.
Do.....	Jan. 1-Feb. 18.....	169	.....	Do.
San Luis Potosi.....	Dec. 18-24.....	.....	1	Dec. 25-31, 1921: Present.
Do.....	Jan. 8-Feb. 25.....	.....	.....	Present. One death.
<b>Palestine:</b>				
Jerusalem.....	Dec. 27-Feb. 27.....	9	.....	
<b>Poland:</b>				
District—				
Bialystok.....	Nov. 20-Dec. 10.....	116	3	Aug. 14 - Nov. 5, 1921: Cases, 2,399; deaths, 173. Nov. 6-Dec. 3, 1921: Cases, 1,512; deaths, 105. Nov. 20-Dec. 10, 1921: Cases, 1,162; deaths, 89. Dec. 4-31, 1921: Cases, 3,600; deaths, 313. Jan. 1-7, 1922: Cases, 1,322. All statistics are exclusive of Brest-Litovsk, Minsk, and Wilno districts.
Do.....	Jan. 1-7.....	253	.....	
Galicja.....				
Lemberg.....	Jan. 3.....	229	.....	Jan. 1-7, 1922: Cases, 61.
Kielce.....	Nov. 20-Dec. 10.....	31	8	
Do.....	Jan. 1-7.....	28	.....	

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 31, 1921, to Apr. 7, 1922—Continued.**

## **TYPHUS FEVER—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Poland—Continued.				
District—Continued.				
Krakow .....	Nov. 20-Dec. 10....	45	6	
Do. ....	Jan. 1-7 .....	53		
Lodz.....	Nov. 20-Dec. 10 .....	67		
Do. ....	Jan. 1-7 .....	41		
Lublin.....	Nov. 20-Dec. 10 .....	59		
Do. ....	Jan. 1-7 .....	147		
Lwow.....	Nov. 20-Dec. 10 .....	121	16	
Nowogrod.....	do. ....	249	15	
Polesia.....	do. ....	83	5	
Do. ....	Jan. 1-7 .....	450		
Posen.....	do. ....	1		
Stanislawow.....	Nov. 20-Dec. 10 .....	88	8	
Do. ....	Jan. 1-7 .....	54		
Tarnopol.....	Nov. 20-Dec. 10 .....	86	17	
Do. ....	Jan. 1-7 .....	28		
Volhynia.....	Nov. 20-Dec. 10 .....	89	4	
Do. ....	Jan. 1-7 .....	107		
Warsaw.....	Nov. 20-Dec. 10 .....	81	2	
Do. ....	Jan. 1-7 .....	32		
Warsaw City.....	Nov. 20-Dec. 10 .....	47	5	
Do. ....	Jan. 1-7 .....	67		
Portugal:				
Oporto.....	Jan. 8-Mar. 11....	22	2	
Rumania:				
Bucharest.....	Nov. 1-30.....	3		
Chisnau.....	do. ....	7		
Russia.....				Nov. 28-Dec. 10, 1921: In Soviet, Russia, cases, 7, 681.
Esthonia.....	Oct. 1-Dec. 31....	53		Recurrent typhus, 29 cases.
Do. ....	Jan. 1-31.....	36		(Corrected report) Oct. 1-Nov. 30, 1921: Cases, 127.
Latvia.....	do. ....	341		Oct. 1-31, 1921: Cases, 839; Nov. 1-30, 1921: Cases, 2,339.
Libau.....	Jan. 15-Feb. 1....	4		Sept. 1-Dec. 31, 1921: Cases, 1,967; mortality, about 10 per cent; hospital cases.
Perm.....	Nov. 23-Dec. 10 .....	1,408		Jan. 23, 1922: Present in western districts.
Saratov District—				Epidemic.
Markstadt.....				
Serbia:				
Belgrade.....	Oct. 2-Nov. 26....	3	2	
Siberia.....				
Chita.....	Dec. 28.....			
Vladivostok.....	Dec. 25-31.....	5	1	
Spain:				
Madrid.....	Dec. 1-31.....	1		
Do. ....	Jan. 1-31.....	2		
Tunis:				
Tunis.....	Feb. 5-Mar. 4.....	3	3	
Turkey:				
Constantinople.....	Nov. 20-Dec. 31....	19		
Do. ....	Jan. 1-Feb. 25.....	57		
Union of South Africa.....				Nov. 1-Dec. 31, 1921: Cases, 1,368; deaths, 205 (colored). White, 20 cases; deaths, 4.
Cape Province.....				Oct. 23-Dec. 24, 1921: Outbreaks. Nov. 1-Dec. 31, 1921: cases, 1,053, deaths, 158 (colored). Among white population, 19 cases, 3 deaths.
Do. ....				Jan. 1-14, 1922: Outbreaks.
East London.....	Oct. 30-Dec. 24....	3		One death in European at Jansenville, Dec. 6, 1921.
Natal.....	Nov. 5-Dec. 17....			Outbreaks. Stated to be prevalent only in Newcastle District.
Orange Free State.....	Nov. 13-Dec. 31....			Nov. 1-Dec. 31, 1921: Case 135; deaths, 25 (colored).
Do. ....				Outbreaks. Nov. 1-Dec. 31, 1921: Cases, 158; deaths, 21 (colored).
Transvaal.....	Jan. 1-14.....			Outbreaks.
Johannesburg District.....	Jan. 8-14.....			Outbreaks. Nov. 1-Dec. 31, 1921: Cases, 35; deaths, 4 (colored). White, one case, one death.
	Jan. 12-18.....	26	4	

# **CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**

**Reports Received from Dec. 31, 1921, to Apr. 7, 1922—Continued. .**

## **TYPHUS FEVER—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Venezuela:				
Maracaibo.....	Dec. 20-26.....	.....	1	
Yugoslavia.....				July 3-30, 1921: Cases, 13.
Bosnia Herzegovina.....	July 3-9.....	1	.....	
Croatia—				
Zagreb.....	Jan. 1-Feb. 25.....	2	.....	
Montenegro.....	July 3-9.....	3	.....	

## **YELLOW FEVER.**

Mexico.....				Year 1921: Cases, 115; deaths, 53.
Colima (State).....				Year 1921: Cases, 7; deaths, 4.
Colima.....	Oct. 27.....	4	3	
Manzanillo.....	Aug. 21.....	3	1	
Jalisco (State).....				Year 1921: Cases, 13; deaths, 7.
Guadalajara.....	Nov. 1-30.....	1	1	Imported.
Puerta Vallarta (Las				
Penas).....	Oct. 5-Dec. 17.....	13	5	
Do.....	Jan. 31.....	1	1	
Tonila.....	Aug. 31.....	1	1	
Quintana Roo (Territory)—				
Payo Obispo.....	Aug. 8.....	1	1	
Sinaloa (State).....				Year 1921: Cases, 18; deaths, 9
Culiacan.....	Sept. 17.....	4	1	
Guamuchil.....	Oct. 10.....	1	.....	
Mazatlan.....	Aug. 21.....	1	1	Imported.
Palmar de los Leales.....	Sept. 30.....	12	7	
Tamaulipas (State).....				Year 1921: Cases, 1; deaths, 1.
Tampico.....	Jan. 11.....	1	1	
Vera Cruz (State).....				Year 1921: Cases, 75; deaths, 31.
Alamo.....	June 21.....	4	1	Oil camp.
Alvarado.....	July 3.....	1	1	
Barra de Penn.....	July 18.....	1	1	
Cordoba.....	Sept. 22.....	5	3	
Cosamaloapam.....	July 18.....	14	6	
Nogales.....	Oct. 28.....	1	1	
Orizaba.....	do.....	1	.....	
Papantla.....	Jan. 14.....	6	3	
Providencia.....	Oct. 28.....	3	.....	
Purga.....	Feb. 7.....	1	1	
Rancho de Santa Rosa.....	Oct. 8.....	2	.....	
Rancho "El Jaguey".....	Sept. 14.....	2	2	
San Pablo (Papantla).....	Sept. 12.....	1	.....	
San Ildefonso.....	Oct. 17.....	2	.....	
Tierra Blanca.....	Sept. 24-Nov. 12.....	4	3	
Tlacoatalpan.....	Sept. 14.....	1	1	
Tuxpam.....	Jan. 3.....	8	2	
Vera Cruz.....	Jan. 15.....	18	7	Two of these cases imported Dec. 20-26, 1921: Cases, 1; deaths, 1. Imported.